NACCHO
National Association of County & City Health Officials

Developing the Capacity to Support **Clinical Older Adult Fall Prevention**

A Guide For Local Health Departments

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This project is supported by the Centers for Disease Control and Prevention of the U.S. Department of Health and Human Services (HHS) as part of a financial assistance award (CDC #5 NU38OT000306-04-00). The contents do not necessarily represent the official views of, nor an endorsement, by CDC/HHS, or the U.S. Government.

Acknowledgements

This guide and its contents were reviewed by numerous representatives from local health departments ("LHDs") and subject matter experts. The authors would like to thank the following persons:

Dia Gainor, MPA, QAS - National Association of State EMS Officials

Andy Gienapp, MS, NRP - National Association of State EMS Officials

Dr. Korey Kennelty, PharmD, MS, PhD, BCGP - University of Iowa College of Pharmacy

Dr. Robert Salinas, MD, CAQ - University of Oklahoma College of Medicine

Dr. Scott Trudeau, OT, PhD - American Occupational Therapy Association

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Introduction

What is a clinical fall prevention program?

At their core, these programs aim to:

1. **Identify** older adults at risk for falls through screenings,
2. **Assess** their modifiable risk factors and fall history, and
3. **Offer interventions** or connections to resources within the community to reduce identified risk factors.

The population of the United States is aging rapidly. By 2030, nearly 73 million Americans will be aged 65 or older.[1] As the number of older adults increases, public health must align its efforts to support healthy aging with the distinctive needs of this population. Older adults face a multitude of serious and expensive health concerns that can negatively impact their independence and quality of life.[2] Chiefly among these are falls, which are the leading cause of fatal and non-fatal injuries among community-dwelling older adults.[3] There are many factors that increase older adults' risk of falling. However, many of these risk factors are modifiable meaning many of these falls are preventable.

Recognizing the urgent need to develop and expand programs to prevent older adult falls, the National Association of County and City Health Officials (NACCHO) began work on the project **Developing the Capacity to Support Older Adult Falls** in 2019. This project, in collaboration with the National Association of State EMS Officials (NASEMSO) and with support from the CDC, aims to help local health departments (LHDs) strengthen their capacity to reduce the risk of falls and prevent their recurrence among community-dwelling older adults. LHDs have the capacity to bridge the gap between community and clinical fall prevention programs to identify older adults at increased risk for falls and to increase access to evidence-based clinical and community fall prevention resources.[4] This may consist of creating a coordinated effort between program activities offered in the community. **It is important to note that LHDs do not have to offer all the suggested key program activities to have a successful fall prevention program.**

As part of this project, NACCHO has worked with LHDs and their clinical partners, primarily community paramedicine programs (healthcare programs where paramedics and emergency medical technicians [EMTs] offer a variety of non-emergency services to include prevention activities), to gain a thorough understanding of partners' various approaches to clinical fall prevention initiatives, including their goals, methods, successes, and challenges. Furthermore, we conducted work group calls with eight LHDs from across the country with a variety of backgrounds in fall prevention program implementation to ensure this guide presented a comprehensive, cohesive, and detailed overview of how to create a program. These work group calls also included subject matter experts in primary care, physical therapy, pharmacy, and occupational therapy with a specialization in geriatrics in addition to subject matter experts in Emergency Medical Services (EMS).

An aging society requires an innovative and comprehensive approach to sustain continued health and safety. However, with proper resources, collaborations, and support, LHDs have the capacity to screen and assess older adults to identify their modifiable fall risks, refer them to an effective program within their respective communities, thus decreasing the health burden and cost of falls that can overwhelm their health care system. This guide was designed to help LHDs engage in clinical fall prevention work by creating or expanding existing programs to meet the needs of older adults living in their communities.

This guide focuses specifically on programs that aim to support community-dwelling adults aged 65 years and older. It provides an overview of the following essential elements to planning and implementation:

Section 1: Why Should Local Health Departments Develop a Clinical Fall Prevention Program?

Section 2: How Does a LHD Start Planning a Clinical Fall Prevention Program?

Section 3: What Clinical Partners Should LHDs Work With?

Section 4: What are the Key Activities in a LHD's Clinical Fall Prevention Program?

Section 5: How Should LHDs Monitor and Evaluate Their Program?

Section 6: Can LHDs Fund and Sustain Their Program?

Why Should Local Health Departments Develop a Clinical Fall Prevention Program?

What is a Fall?

A fall is defined as an event in which a person unintentionally comes to rest on the ground or another level. The development of the Hopkins Fall Grading Scale (HFGS) prevents ambiguous definitions of falls from being reported in clinical settings.[5] The four-level grading scale classifies the level of each fall in the figure below.

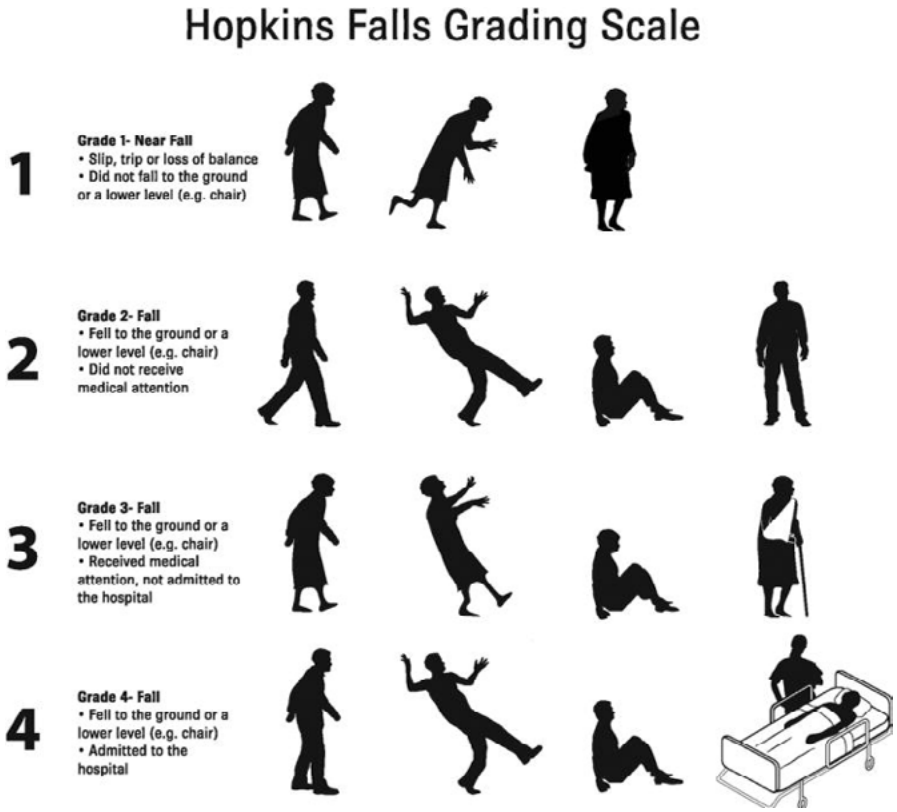

Figure 1: Hopkins Falls Grading Scale © Johns Hopkins University

An older adult falls every second of every day.[6]

In adults aged 65 or older, falls are a leading cause of morbidity and mortality nationwide. When an older adult suffers a fall, the consequences can be severe, jeopardizing their health, independence, and overall quality of life.

What are Fall Risk Factors?

Older adults often have multiple risk factors that increase their likelihood of experiencing a fall and rarely experience a fall due to only one risk factor.[7] Fall risk factors are complex and are categorized into either extrinsic, such as home and environmental hazards, or intrinsic, such as age, sex, or certain health conditions.[8,9,10] Many of these risk factors are modifiable. Modifiable fall risk factors include:

- Difficulties with walking, and strength, or balance limitations,
- Postural hypotension (i.e., drops in blood pressure when moving from lying down to sitting up, or from sitting to standing)[10],
- Vision problems,
- Medical conditions,
- Side effects from medication,
- Home and environmental hazards,
- Problems with feet or footwear, and
- Vitamin D deficiency.

What Impact Do Falls Have on Older Adults?

Falls are the leading cause of fatal and non-fatal injuries in older adults.[11] About 36 million falls are reported among older adults each year, resulting in approximately 3 million emergency department (ED) visits, about 1 million hospitalizations, and over 36,000 deaths.[6,11] However, many older adults do not report falls. Research shows that over half of older adults who experienced a fall did not tell their healthcare provider about it.[12,13]

Even when non-fatal, injuries from falls can be serious. Ninety-five percent of hip fractures are from falling.[14,15] These injuries in older adults can make performing daily activities more challenging and, in some cases, lead to a loss of independence.[16] Aside from the physical effects, experiencing a fall may create fear of falling again.[17] This fear of falling can subsequently lead to a cycle of falling where an older adult is inactive due to their fear of falling, which can subsequently cause a decrease in muscle strength and imbalanced movement, and will therefore increase their risk of future falls.[18]

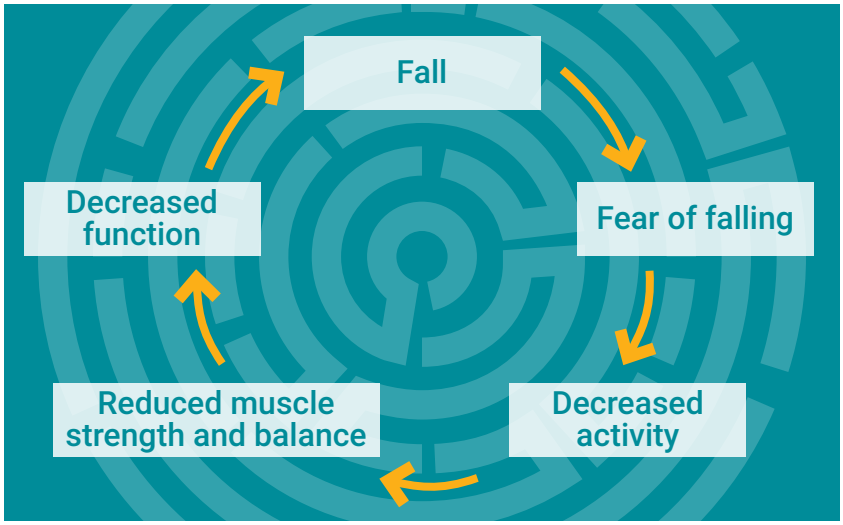

Figure 2: Adapted from Ang, Low, & How (2020)

Why are Falls among Older Adults an Urgent Public Health Issue?

Nearly 73 million Americans will be aged 65 or older by 2030. If more is not done to prevent falls, there could be an estimated 52 million reported falls, 12 million fall injuries, and if deaths rates continue to rise, approximately 59,000 fall deaths in 2030.[2,6,19,20] According to the *Annual ImageTrend Collaborate Report 2019-2021 Prehospital Data*, one of the top three reasons for 911 calls were falls. An older adult who experiences a fall is twice as likely to experience a fall again within a year.[21] Each year about $50 billion is spent on medical costs related to non-fatal fall injuries and $754 million is spent related to fatal falls.[21] As our population ages, we can expect the number of fall injuries and the cost to treat these injuries to soar.[21]

Public health professionals must continue to promote healthy aging through inclusive policies and programs that support older adults and their community.

What Role Should Local Health Departments Play in Older Adult Fall Prevention?

LHDs are charged with protecting, promoting, and improving the health and safety of those in their community. Because of this, LHDs are often uniquely positioned to:

- ☑ Have deep knowledge of the community landscape
- ☑ Serve as a neutral convener for the community
- ☑ Facilitate connections between government agencies and community partners
- ☑ Help build coalitions and raise awareness
- ☑ Promote health equity

LHDs are connected with the county and city planning departments, which puts them in a unique position to influence decisions over built environments such as improving access to safe places for older adults to exercise. Whether or not LHDs directly offer clinical fall prevention interventions, their involvement presents an opportunity to create innovative and effective community-based older adult fall prevention initiatives by coordinating efforts with local entities who offer these interventions.

LHDs can address the need for coordinating fall prevention efforts in their community by:

- **Identifying Community Need**
  Development of clinical fall prevention programs are largely driven by community need and usually identified by review of fall-related data or community health assessments. This data may be collected, assessed, and published by LHDs.

- **Gaining Buy-In**
  Gaining buy-in from leadership, local partners, and older adults is a key factor for program development and the successful implementation of fall prevention services. LHDs can establish colloborative advisory groups and community coalitions to support the implementation of fall prevention interventions and events.

- **Facilitating Partnerships**
  Cross-sector approaches to health promotion and injury prevention allow for the sharing of resources, better reach to target populations, and opportunities for community referrals to fall prevention programs. LHDs often collaborate with partners across sectors to strengthen the health of their community.

- **Policy Advocacy**
  LHDs can advocate for increased access to clinical fall prevention education and resources in addition to the creation of a referral-based system for community-dwelling older adults.

- **Identifying and Recruiting Program Participants**
  Participation in clinical fall prevention programs is primarily driven by referrals and outreach. LHDs often have established outreach and relationships with community members and organizations.

Key Resources

The following resources provide a range of education, tools, and information on older adult fall prevention and its importance to public health.

- **Older Adult Fall Prevention (NACCHO)**
  Webpage that features an overview of older adult falls and their importance to local public health as well as a curated collection of older adult fall prevention resources.

- **Older Adult Falls (CDC)**
  Webpage containing facts about falls, falls data by state, and fall prevention resources for clinicians, phamacists, and older adults.

- **Falls Prevention Resources for Older Adults and Caregivers (Administration for Community Living)**
  Collection of fall prevention tips, programs, and resources from ACL and their partners.

- **National Falls Prevention Resource Center (National Council on Aging)**
  This center supports the implementation and dissemination of evicence-based falls prevention programs and strategies.

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How Does a LHD Start Planning a Clinical Fall Prevention Program?

LHDs considering starting a fall prevention program or expanding an existing program can start by completing these steps:

- **Step 1:** Assess community need and context
- **Step 2:** Identify a population of focus
- **Step 3:** Assess existing cycles of care
- **Step 4:** Set goals and objectives
- **Step 5:** Begin designing the program

Step 1: Assess community need and context

Before deciding to create a new clinical fall prevention program, first identify the individual or group who will design and implement the program. Afterwards, it is important to identify the unique needs and reflect on the context of your community through a community needs assessment, which is discussed later in this section.

What does the data show? Review available local data related to older adult falls. Key sources of data include fall-related:

1. 911 calls and other EMS responses,
2. emergency department visits, and
3. hospitalizations.

If you do not already have access to these data, reach out to local partners, including hospitals and EMS, to discuss data sharing. As EMS agencies are the first to respond to many older adult falls in the community, they can provide valuable and unique data to help identify a need for a fall prevention program and to support its implementation. Learn more about how local health departments can obtain local falls data from EMS in *Section 5: How should LHDs Monitor and Evaluate Their Program?*

Questions to Ask Local EMS Agencies About Older Adult Falls

- How large of a burden are falls in your response system?
- Based on what you see in older adult patient's homes, what are the top health concerns in the community?
- Can you show "hot spotting" or areas in the community that have a higher prevalence of older adult falls?
- Are you able to link to local hospital data and show outcomes?
- Do you have a community paramedicine program? And, if so, are they screening for older adult fall risk?

Has this already been identified as a priority area? Outreach to potential partners may also present an opportunity for natural collaboration, as they may have already identified older adult falls as a priority area of concern. and developed programs to prevent falls. For example, your local EMS agency may have an established community paramedicine program that is considering expanding its services to include older adult fall prevention. Your LHD may be serviced by more than one EMS or hospital. In this case, state EMS and trauma data systems can provide valuable insight with aggregate data for the entire area.

If your community has recently developed a Community Health Assessment (CHA) or Community Health Improvement Plan (CHIP), review these documents to see if they address older adult falls. These documents can provide comprehensive information about your community's health needs and targeted strategies of how to address them. While CHAs and CHIPs are meant to drive action to improve health, they are not always utilized on a continuing basis. Identification of older adult falls in a CHA/CHIP may ultimately help gain buy-in from your health department's leadership to build a clinical fall prevention program. It is important to note that older adult falls data are sometimes embedded in unintentional injury data depending on the data source within the CHA or CHIP. Moreover, assessments relying on healthcare data may underestimate the burden of fall injuries. Some older adults may be reluctant to report falls to their healthcare provider for various reasons, including fear that discussing falls with their healthcare provider may lead to a loss of independence.[1]

For LHDs that have existing fall prevention programs and are considering expansion into clinical fall prevention, you might consider collecting additional data to see whether gaps exist. For example, you could conduct focus groups, stakeholder interviews, or surveys with the participants of your current program and other relevant stakeholders in the community to hear more about their needs.

What are other key local contextual factors? Before designing a program, it is important to reflect and consider the context within your local health department and the larger community. You might conduct a Strength, Weakness, Opportunity, Threat (SWOT) analysis (see Appendix A) to reflect on strengths, weaknesses, opportunities, and threats, or go through a context mapping exercise with your team and/or potential partners. Identify relevant factors such as:

- Demographic trends
- Available resources and funding
- Other agencies and organizations supporting older adults
- Social determinants of health and other characteristics affecting fall risk within your specific community

Step 2: Identify a population of focus

While the purpose of this guide is to implement clinical fall prevention programs for community-dwelling adults aged 65 and older, consider narrowing the population of focus if it makes sense for your community. This may help reach the population most at risk and focus services on those most in need. This will be important as you seek to address equity and access to services within your community and may guide you to opportunities for funding.

Step 3: Assess existing cycles of care

The American Geriatrics Society recommends that all older adults aged 65 years and older should be screened for their fall risk annually.[2] Due to the magnitude of older adult falls, many medical societies and organizations worldwide have developed clinical practice guidelines for fall prevention, education, and management.[3] It is vital for LHDs to connect with local primary care providers, pharmacists, physical therapists, occupational therapists, and trauma centers to see if there are existing cycles of care for older adults who are at-risk for falls and/or have experienced a fall. For example, the CDC Coordinated Care Plan to Prevent Older Adult Falls provides a framework for clinicians and healthcare systems for making older adult fall prevention a routine part of clinical care.

If an older adult fall prevention coordinated care plan is structured into the healthcare system's services, consider the following variables:

- Does the coordinated care plan for all settings connect the patient with community-based resources?
- When a patient seeks treatment for fall-related injuries, is there a follow-up process upon discharge from hospitals?

Step 4: Set goals and objectives

Before diving into the specific program model and interventions, reflect on the need and contextual factors identified by Step 1, as well as the population of focus identified by Step 2. Then, as with any new programming efforts, define your specific goals and objectives to help lay the foundation to guide subsequent decisions and help frame your vision to leadership and other stakeholders.

- **Goals:** identify broad outcomes or aims for how you envision the program's long-term impact.
- **Objectives:** develop S.M.A.R.T.I.E. objectives (see graphic on page 15) that define measurable actions to help achieve the overall goals in the short- and intermediate-term.

Be sure to take a step back and consider, "how do these goals and objectives fit into larger strategic priorities of our local health department?" Ideally, development of any prevention programming would align with a broader strategic plan or CHIP to ensure the needs of older adults are being addressed in a systematic and intentional, rather than piecemeal, approach. However, even in the absence of an existing strategic plan or taking on an intensive strategic planning process, you can still exercise strategic thinking. With these goals and objectives in mind, envision what you want to accomplish, what solutions can address this problem, and how you can improve support and services for older adults.

WHAT MAKES OBJECTIVES
S.M.A.R.T.I.E.?

SPECIFIC
Does this objective clearly specify what will be accomplished, by whom, and for whom?

MEASURABLE
Can we easily demonstrate that this goal has been met?

ATTAINABLE
Is this objective realistic, reasonable, and within our control or scope?

RELEVANT
Does this clearly align to the vision and strategic priorities identified?

TIME-BOUND
By when will you have accomplished this objective?

INCLUSIVE
How will you include or involve those most impacted in the process, activities, and decision-making?

EQUITABLE
Does this objective seek to address systemic injustices or inequities?

Step 4: Identify stakeholders and seek buy-in

Gaining buy-in from local health department leadership, community partners, and community-dwelling older adults is key to successful implementation of clinical fall prevention services. Take what you've learned or developed thus far and package it in a way that clearly and effectively makes your "case." Define the problem by using the data or information collected in Step 1 to demonstrate the need for these programs and services. Compare this local data to that at the state and national level. Then, lay out your vision for the goals you'd like to achieve.

Seeking support from and building trust with local partners and older adults is not a one-time box to check at the beginning of program development; it must be a continuous effort throughout the planning and implementation of a clinical fall prevention program. Forming relationships with and engaging key community partners, including clinical (e.g., EMS) and non-clinical (e.g., senior centers) partners, is needed for effective recruitment, care coordination, and overall success of a fall prevention program. If your community has a fall prevention stakeholder advisory group or coalition, they can be a helpful resource to start planning as they bring together local partners who serve older adults in various capacities including EMS agencies, senior center staff, hospital staff, pharmacists, etc.

Check out the Case Studies in Appendix B, highlighting the successes and impact of clinical fall prevention programs operated by community paramedicine programs. These can be used to demonstrate how programs have been successfully implemented in other communities. The state EMS office should be able to assist with identifying community paramedicine programs within the jurisdiction or adjacent jurisdictions.

In addition, consider local Areas on Aging, universities, community colleges, and senior centers as prospective partners with whom LHDs can engage. One point of consideration for LHDs as they communicate with prospective partners is that there may be reservations due to competing priorities and limited resources. Therefore, it is important to communicate opportunities for collaboration. Learn more about identifying potential partners and developing these relationships in *Section 3: What Partners Should Local Health Departments Work With?*

Tip: Building Partnerships

Always leave something behind for partners to refer to later or share with others. This should be clearly written, in an easily digestible format, and reinforced by graphics whenever possible. It should answer the questions:

1. Where are we today?
2. Where do we want to be?
3. How do we get there?

Cultivating trust with older adults is a necessary precursor to engagement in fall prevention programs and services. Otherwise, negative perceptions of the fall prevention program can be a barrier to successful recruitment, particularly during the early stages of implementation, and lead to the refusal of program services and resources. For example, some community paramedicine programs make sure to incorporate personnel uniforms and marked vehicles to clearly identify them as a helpful, supportive resource. Others do presentations and outreach in their community to raise awareness about their services and to dispel the misconception that their goal is to remove or displace older adults from their homes.

Building trust in the community takes time, so start early by involving older adults in your planning. Involve the population of focus to ensure that the program you build will appropriately meet their needs. Ask older adults currently participating in other programs or services for feedback on new ideas, potential barriers, and key messages to use. This is also critical to ensure any program developed is tailored to the unique needs of your community and population of focus.

Step 5: Begin designing the program

Be sure to maximize opportunities for reach by building on existing programming or service delivery models whenever possible. Check whether there are established community paramedicine programs, mobile health outreach, existing evidence-based fall prevention programs, and/or home visiting programs that may currently reach older adults. For example, some community paramedicine programs started by addressing other health issues like mental health or substance use prevention but later expanded to include falls because of the co-occurring physical and social determinants that impact older adults. **Before moving on to the logic model and action plan, it is strongly recommended to first complete the prior four steps outlined above.**

Complete the PRECEDE-PROCEED model as the first step of designing the program. The purpose of the model is to focus on the outcome of the program rather than the activities.

See below for a list of steps for the PRECEDE portion of the model:[4]

- **Phase 1:** Identify the desired outcome (e.g., reduce number of fall-related 911 calls by 10% in three years).
- **Phase 2:** Identify barriers and facilitators to achieving the desired outcome and prioritize those you can address (e.g., identification of why older adults are not participating in community-based fall prevention programs).
- **Phase 3:** Identify the predisposing, enabling and reinforcing factors that influence barriers to achieving the desired outcome (e.g., older adults' beliefs about their fall risk).
- **Phase 4:** Identify administrative and policy factors that can influence what can be implemented.

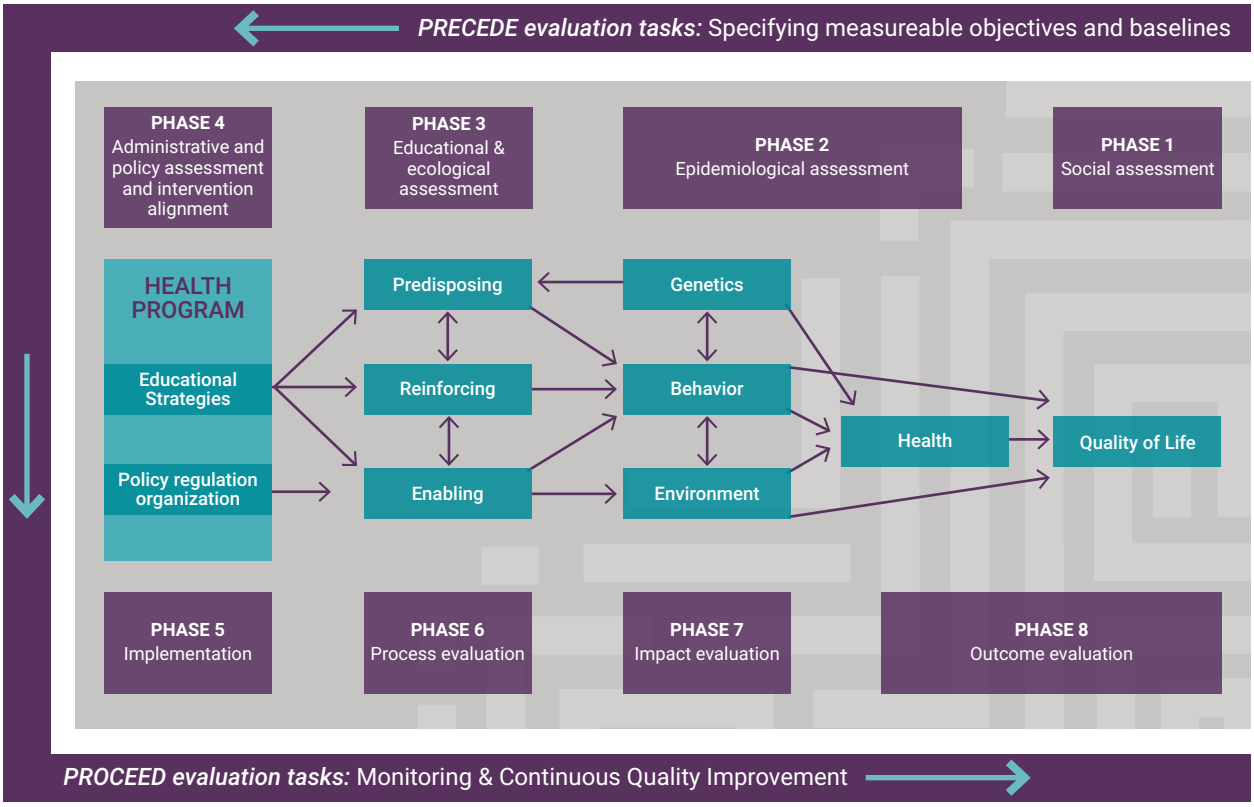

Figure 3: Adapated from Generic Representation of the Precede-Proceed Model from L. Green and M. Kreuter. (2005). Health Promotion Planning: An Educational and Ecological Approach (4th Ed.). Mountain View , CA: Mayfield Publishers.

Design a **logic model** that can serve as a framework for the program you want to implement to map out the resources needed, potential strategies and activities, anticipated outputs, and intended outcomes. Appendix C shows a sample logic model for a clinical fall prevention program. Refer to *Section 4: What are the Key Activities in a LHD's Clinical Fall Prevention Program?* and *Section 5: How Should LHDs Monitor and Evaluate Their Program?* for guidance on the elements you may want to include.

Then, create an **action plan** to help translate this vision into reality. This critical step of the planning process will help list the action steps needed to meet your goals and objectives, specifying who is doing what and by when, which is particularly important when coordinating with various community partners. Appendix D provides a template for an action plan.

Key Resources

The following resources can support a LHD and their partners in the planning processes for a clinical older adult fall prevention program.

- **National EMS Information System (NEMSIS)**
  A National EMS database that can help provide contextual information about the prevalence of falls.

- **Securing Buy-In (Advancing Health Equity)**
  As part of the Roadmap to Reduce Disparities, a webpage containing stretegies to obtain buy-in from staff, patients, and the community.

- **Developing and Using a Logic Model (ACL)**
  Within the context of heart disease and stroke prevention, guidance on how to create and use logic models for program planning and evaluation.

- **Developing Goals, Strategies, and an Action Plan (NACCHO)**
  Phase 5 of the Mobilizing for Action through Planning and Partnerships (MAPP) community-driven strategic planning process for improving community health.

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What Clinical Partners Should LHDs Work With?

As reflected in previous sections, falls in older adults are a complex issue that requires comprehensive approaches to successfully prevent injuries. Critical and complex issues demand innovative and informed solutions created from diverse perspectives, experiences, skills, and expertise through cross-sector collaborations. Strategic partnerships can be crucial to improving the health of your community and creating long-term, sustainable, meaningful change. Partnerships expand LHDs reach to populations of focus while allowing for the sharing of resources, and opportunities for community referrals to fall prevention programs. Additionally, partners can be instrumental in building trust and buy-in from older adults and the community. A suggested pathway for building new partnerships and fostering existing partnerships can be divided into these three steps:

- **Step 1:** Identify Potential Partners
- **Step 2:** Determine Roles and Responsibilities
- **Step 3:** Maintain Engagement and Collaboration

Step 1: Identify Potential Partners

Due to limited funding to LHDs, collaborating with partners may help LHDs accomplish several key activities in a fall prevention program. Begin by **brainstorming and compiling a list of potential partners** within your community (e.g., area agencies on aging, organizations that support older adults, community-level leaders). LHDs find that the **best practice** for identifying potential partners is to target organizations and agencies that both serve older adults and would be invested in improving available fall prevention services. Attending other agencies' community events and/or meetings is an opportunity to network and build relationships, as well as educate other partners about available fall prevention programs and services.

Take some time to think about:

- **Who** do I want to engage?
- **What** do I want to communicate?
- **When** will I try to deliver this message?
- **Why** is engaging this partner a top priority?
- **How** will I deliver this message so it has the most impact?

TIP! Share your draft objectives with partners and ask for their feedback during your outreach to ensure alignment across shared goals and objectives.

Engaging with partners can be overwhelming, so start small. Informal conversations can build up to successful partnerships. Identify an organization of similar structure, size, and objectives, and work from there.

Before reaching out to partners, consider:

- Identifying your "ask" or "call to action" and the desired outcome. Is it to inform, engage, motivate, or simply maintain that partner relationship?
- Setting up an internal meeting to brainstorm partnership opportunities.
- Developing a set of S.M.A.R.T.I.E. objectives (refer to Section 2) specifically for different partner types when you make your initial pitch.

Potential Partner Services

Next, determine which partners to prioritize. These could include new, potential, or existing partners who have recently disengaged.

Potential partners and fall prevention services they can offer are:

Partner	Services
Hospitals (e.g., Emergency Department)	■ Contribute data on ED visits and hospitalizations related to falls. ■ Provide funding for programming. ■ Host fall prevention seminars and classes. ■ Build a fall risk reduction clinic. ■ Refer older adults to fall prevention programs.
EMS (Emergency Medical Services) Agencies & Community Paramedicine (CP) Programs	■ Identify older adults who frequently call 911 for falls. ■ Screen patients for fall risk, assess for modifiable fall risk factors, and deliver some fall prevention interventions in the home. ■ Provide referrals to fall prevention programs and services. ■ Participate in care coordination, including medication management. ■ Joint or shared funding sources for programming. ■ Coordinate on communication campaigns and other outreach activities.
Primary Care Providers	■ Screen older adult patients for fall risk prior/during routine physical examinations. ■ Assess modifiable fall risk factors and offer interventions such as medication management or referral to Physical/Occupational Therapy. ■ Coordinate care with program team members to ensure continuity of care, support for medication management, and referrals to fall prevention programs and services.
Physical/Occupational Therapists	■ Screen older adult patients for fall risk. ■ Assess strength, gait, and balance in program participants. ■ Provide exercises and education to older adults to improve gait, strength, and balance. ■ Assess for environmental hazards and recommend home modifications.
Pharmacists	■ Conduct fall risk screenings. ■ Review medications for those that increase a patient's fall risk and make recommendations to providers.
Senior Services and other Community-Based Organizations	■ Host evidence-based fall prevention classes. ■ Provide referrals to fall prevention programs and services. ■ Host social events to encourage networking among older adults to support social connection.
Other Local & State Government Agencies (e.g., aging/disability offices, state health departments, city/county officials)	■ Conduct fall prevention education sessions. ■ Offer supportive services for low-income seniors, including transportation to fall prevention programs, installation of grab bars, and provision of medical alert devices. ■ Conduct fall risk assessments and implement home modifications. ■ Provide referrals to fall prevention programs and services. ■ Joint or shared funding sources for programming. ■ Facilitate private/public partnerships to provide older adults with needed medical equipment. ■ Provide data and reports or research on falls.

Outreach to Partners

When crafting your outreach message to prospective partners, reciprocity is key. Create opportunities that offer a mutually beneficial proposal (a value proposition) explaining how and why the partnership is advantageous to both parties and describe how this program will reduce older adult falls.

Whether you are seeking to initiate contact or re-engage with a partner, present why this work is important and how the partnership would benefit them. **So, how do you make the case?** One example of how to get buy-in from potential partners is to present evidence on the burden of falls in your community such as fall-related emergency department visits and/or EMS calls to help demonstrate the need for potential clinical fall prevention partnerships.

Think about this partner's needs and potential challenges.

- What are you offering to your prospective partner?
- Why does your message matter to them?

TIP! Ensure that you adapt your message to each target audience.

Potential Strategies

to Help Demonstrate Value Proposition

DEMONSTRATE NEED WITH DATA
Leverage surveillance data on fall injuries. If available, local fall injury data can be an incredibly powerful tool to demonstrate the need for partnership and increased collaboration.

HIGHLIGHT SUCCESSES
Share the successes of your fall prevention program focusing on program outputs. (e.g. reach and participation) and outcomes (e.g. reductions in fall injuries). Demonstrating your program's success will encourage buy-in.

SHARE PERSONAL STORIES
Ask local community members to share their stories to personalize the need for this program, initiative, or service.

LEAVE SOMETHING BEHIND
Reinforce your message with something for them to "takeaway" and digest (e.g. a flyer, fact sheet, or FAQs), so they can refer to the key points of your message later or share internally within their networks.

Step 2: Determine Roles and Responsibilities

LHDs and their partners may play distinct roles, such as **planning and partner engagement, initiating referrals,** or **providing direct interventions** to support fall prevention initiatives.

- **Planning and partner engagement —** form steering committees or fall prevention coalitions to engage, sustain partnerships, and support implementation of programs and services. Make sure to have regular meetings.
- **Initiating referrals —** offer referrals to local fall prevention programs or conduct an introduction between fall prevention programs and providers to connect entities in the community who are working to decrease fall risk and support healthy aging.
- **Providing direct interventions —** implement programs and interventions to assess and modify risk factors for falls among older adults.

When connecting with partners, ask how they see themselves fitting into the above roles. Having this conversation upfront will highlight potential future collaborative opportunities and help identify where you may need additional support, should the partner have limited capacity.

As you formalize partnerships, it is important to develop structures and parameters to ensure alignment across mutually beneficial opportunities. To help visualize the evolution of the relationship, refer to the **"Levels of Partnership" graphic below**[1] to understand how partnership involvement grows as the relationship evolves.

Methods of Formalizing Partnerships

To help legitimize your partnerships, there are a few methods that can be utilized to provide governance around the relationship.

- **Letter of Commitment** — legally binding statement from both parties stating that you both, respectively, are fully capable of participating in the agreed-upon set of activities to deliver the outputs required.
  - » The letter should highlight the specific roles and responsibilities for the set of activities and any financial aspects for the work to be successfully completed.
- **Memorandum of Understanding** (*Optional!) — written agreement between two parties that establishes the ground rules for any partnership activities.
  - » The memorandum should outline what each party agrees to contribute to the partnership, a timeframe for delivering the desired outcomes, and details of how each party will collaborate (e.g., regular in-person meetings, conference calls, written approval of all activities by both parties, and any financial aspects for delivering outcomes).
- **Financial Support via Grants/Contracts** — LHDs are typically well-positioned to serve as a funding source for grants to support community resources.
  - » When clinical prevention programs apply for grants, it often is the start of a great working relationship with LHDs. LHDs have resources that can be shared through the help of a clinical prevention program. Many times, clinical prevention programs and LHDs identify where resources are needed and then work together to create new, additional support within the community.

*Memorandum of Understanding (MOU) are optional as they may involve legal counsel. If a MOU isn't an accessible resource, use your preferred binding contractual agreement document.

Step 3: Maintain Engagement and Collaboration

Partnerships were identified as a critical component to success in all the older adult fall prevention programs that were evaluated as part of the *Developing the Capacity to Support Older Adult Falls* project. However, partnerships are not self-sustaining. Once your LHD has established a partnership with your selected clinical partner, you must employ strategies to sustain engagement and to avoid roadblocks to maintain the partnership.

Identified Challenges and Barriers

Despite their value, partnerships may experience unique barriers that may affect their ability to function effectively.

One major challenge associated with the partnerships evaluated as part of the project was the limited face-to-face interactions due to COVID-19. This reduced engagement led to high rates of partnership "turnover," which was a substantial barrier to implementing fall prevention programs as it directly impacted funding and provision of services and events.

Other barriers to successful cross-sector collaboration can include:

- Bureaucratic or regulatory barriers (i.e., data sharing, policy restrictions)
- Organization-specific policies (i.e., data sharing, differences in data collection)
- Geographic separation between partners
- Poor communication
- Non-integrated systems (i.e., data sharing, challenges with referrals)
- Logistic/administrative constraints (i.e., data sharing, lack of capacity, lack of budget)

Refer to the **How to Drive Successful Data Sharing and Care Coordination** graphic on page 25 for tips on successful data sharing partnerships.

How to Drive Successful Data Sharing and Care Coordination

The lack of interoperability among technological systems used for data sharing can create a significant barrier to successful implementation of fall prevention initiatives. Data sharing protocols, with entities such as hospitals, can serve as a facilitator to effective care coordination for community paramedicine programs.

LHDs can take the following steps to ensure successful data sharing as they initiate partnerships:

1. Promote **open collaboration and trust** between the LHD and its partners
2. Practice and encourage **flexibility** amongst all partners
3. Track the evolving **standards for data sharing**
4. Acknowledge the **internal and external priorities** of both the LHD and its partners

For more information on data sharing in the local public health system, visit NACCHO.org

Key Factors for Success

Taking the time to build new partnerships and strengthen pre-existing partnerships are key for developing and implementing successful fall prevention programs and initiatives. Key factors for success, identified as part of the *Developing the Capacity to Support Older Adult Falls* project, included ongoing and frequent communication, leadership, staff buy-in, and formalization of partnerships in addition to detailing roles and responsibilities.

- **Ongoing and frequent communication** with partners to build strong relationships and programs for LHDs. Participants reported holding routine check-ins (e.g., biweekly, monthly), attending coalition meetings, and connecting with their partners at other touchpoints to facilitate this communication.
- **Leadership and staff buy-in** from both LHDs and their partners were necessary to facilitate the implementation of programs or services on a larger scale. Supportive and active participation from partner- and community-level leaders, who serve as decision-makers, was important.
- **Formalization of partnerships and detailing roles and responsibilities** also helped concretize the partnership, with participants noting that establishing MOUs was a strategy they found helpful for partner engagement.

Refer to **Creating and Maintaining Coalitions and Partnerships** graphic below for strategies to help maintain engagement across your partnerships.

The CommunityToolbox, a resource provided by the Center for Community Health and Development at the University of Kansas, offers six strategies to help maintain engagement in public health partnerships.

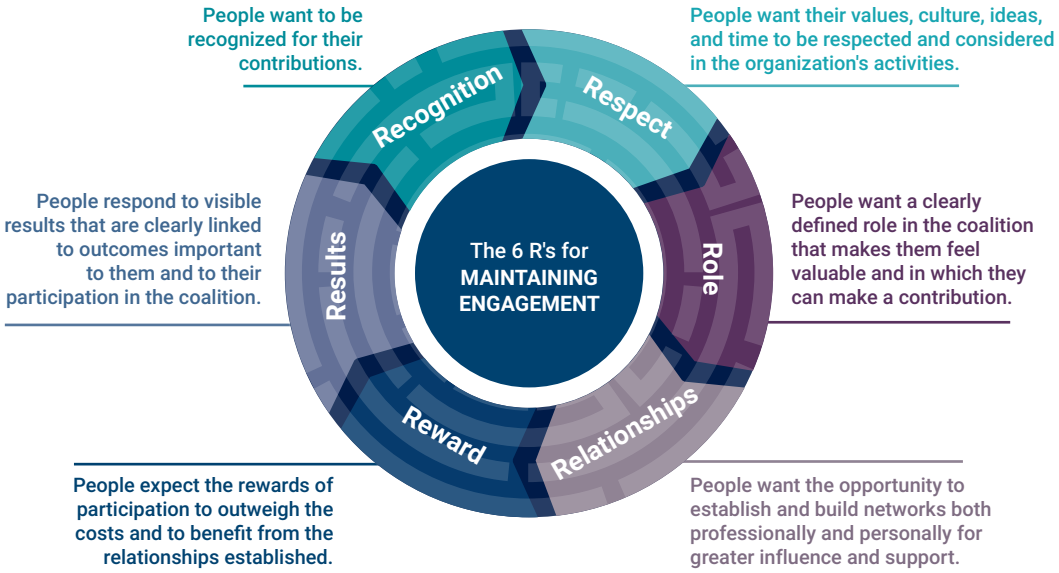

Figure 4: Adapted from University of Kansas Community Tool Box

As partnerships have become more abundant in government and business alike, there is a great deal of information on the key components that ensure these collaborative endeavors maximize outputs. Below are a few tips from leading organizations that have utilized or studied partnerships across sectors.

From Common Ground to Shared Action

The Partnership for Public Health project, a collaboration between the Center for State, Tribal, Local and Territorial Support, the American Hospital Association (AHA) and National Association of County & City Health Officials (NACCHO) developed tools and resources to provide insight on practices that help health care and public health agencies build successful, lasting partnerships. This resource outlines the following essential ingredients to successful collaboration.

1. **Identify** shared populations, geography, and services
2. **Determine** shared vision, values, and goals
3. **Create** a well-defined goal and scope
4. **Leverage** each organization's strengths
5. **Discover** what you cannot do alone
6. **Demonstrate** contributions to each other's mission

Building Partnerships: A Best Practice Guide

In April 2013, The White House Community Partnerships Interagency Policy Committee developed a best practice guide to inform federal government departments and agencies on how to build and improve partnerships through experience and other research.

This guide provides an initial start for how to organize and frame your internal discussions and written agreements. Although it highlights nine keys to success, this can be adapted per your jurisdiction's structure, size, and operations.

Nine keys to success:

1. Clear objectives and agreed-upon scope
2. Early participation by partners
3. Sufficient resources and information
4. Mutual benefits and responsibility
5. Trust and respect
6. Effective communication and transparency
7. Careful management
8. Compliance with legal requirements
9. Planning for implementation and evaluation

Key Resources

The following resources provide further actionable guidance for LHDs working to develop partnerships to further their older adult fall prevention programming:

- **From Common Ground to Shared Action (American Hospital Association)**
  Report detailing key learnings, insights, and ingredients for what makes a successful cross-sector collaboration.

- **Guiding Principles for Public-Private Partnerships (CDC)**
  Guidance for building mutually beneficial public-private partnerships through a framework that maximizes the health impact of such partnerships.

- **Improving Community Health through Hospital-Public Health Collaboration (University of Kentucky)**
  A study that aims to identify and examine successful partnerships involving hospitals, public health departments, and other stakeholders.

- **Best Practice Clearinghouse for Professionals: Strategic Partnerships (National Council on Aging)**
  Webpage highlighting key partners, relevant webinars, resources, and success stories for each partner, as well as a Partnership Assessment Tool.

- **Creating and Maintaining Coalitions and Partnerships (The Community Toolbox)**
  Toolkit providing guidance for creating a partnership among different organizations to address a common goal.

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What are the Key Activities in a LHD's Clinical Fall Prevention Program?

This section provides a description of the key prevention strategies that may be part of a LHD's fall prevention program. While these key activities represent a typical approach to program development and implementation, **the tools and interventions used may vary**. Similarly, whether the LHD themselves or their partners are responsible for implementing these key activities **may depend on the program model, partners' preferences, and resources available**. This section builds off the previous sections where LHDs have begun planning for a fall prevention program by identifying falls among older adults as a public health issue in their community, identifying fall prevention programs that already exist, and identifying clinical partners that could enhance a fall prevention program. *See Section 3: What Partners Should Local Health Departments Work With?* for more information of what clinical partners can be considered.

Note the following when developing a fall prevention program:

- **Start small.** A fall prevention program may consist of a few key activities to begin, and additional key activities may be added over time.
- **One size does not fit all.** The approach for LHDs will vary depending on current partnerships and interventions, available resources, program priorities and their community needs.
- **Not all suggested clinical interventions or approaches must be covered.** Not all fall risk factors must be addressed for a fall prevention program to make an impact in your community.

Ultimately, this fall prevention program should include 3 components:

1. Identify older adults who are at risk for falls,
2. Assess their modifiable fall risk factors, and
3. Offer interventions and connections to clinical and community resources to specifically address identified risk factors.

The following section describes the three components of a clinical fall prevention program and outlines the role of LHDs in establishing a referral-based system.

- **Key Activity 1:** Establish a Referral-Based System
- **Key Activity 2:** Identify Older Adults at High Risk for Falls
- **Key Activity 3:** Assess Fall Risk Factors and Recommend Interventions
- **Key Activity 4:** Care Coordination and Follow Up

Key Activity 1: Establish a Referral-Based System

A referral-based system is a centralized process where patients are referred to specific clinical and/or community-based resources. The creation of a coordinated public health action in which clinical services and community offerings are linked to facilitate patient care, has the potential to increase the delivery of evidence-based preventive services. This can improve population health by improving access to programs and thus, health equity.[1]

The initial step in creating a referral-based system is determining **who initiates the referral, how the referral is created, how this is communicated to the patient, and where this information will be stored.** The National Council on Aging outlines how a referral-based system can be implemented in How to Build Referral Systems for Community-Integrated Health Networks and describes these three types of referral-based systems.

A Provider Referral

The referral is made by a healthcare provider.

In this case, healthcare providers may refer older adults who are at risk of falling to clinical and community-based resources to receive assessments to identify their specific fall risk factors or to interventions that address risk factors providers have identified.

B Internal Registry

The referral is made through a registry of patients who have received medial care (e.g., 911 calls, ED visits, hospitalizations) due to falls. This referral would be made for older adults to receive fall risk asessments to identify what factors are increasing their fall risk and interventions to address specific risk factors.

C Self-Referral

The referral is made by a patient who is concerned about their fall risk. In this case, patients would call a hotline number and would be referred to receive a fall risk assessment and interventions to address their specific risk factors.

In consideration of what referral-based system would be best-suited for your community, look at your list of potential partners from Section 3: What Partners Should Local Health Departments Work With? and consider what strategies may be appropriate to support coordination of a referral-based system among partners. These partners may include EMS or community paramedicine programs, primary care providers (PCPs), community pharmacies, hospitals, or other community-based organizations. In collaboration with each partner, think about:

- How will we raise awareness among our/their staff about the services offered?
- What materials or information should we provide or ask for?
- What will be our mechanism and frequency of communication?
- Will providers conduct warm handoffs (i.e., facilitating the transfer of care to the next provider via an email, phone, or virtual introduction)?

After these initial steps are completed, the LHD should collaborate with clinical and community-based partners to determine the referral workflow and responsibilities. Communication between the LHD and the clinical and community-partners should be open and bi-directional to ensure the effectiveness of the referral-based system.

Healthcare systems often provide clinical training to health professional students, which may be an effective way to pursue partnerships with affiliated academic programs. Student groups could facilitate expanding community outreach and screening activities with well-designed partnerships.

Key Activity 2: Identify Older Adults at High Risk for Falls

The first component of a clinical fall prevention program is establishing a method to identify older adults who are at an increased risk of falling. LHDs can achieve this in multiple ways.

One opportunity to identify older patients is through fall risk screenings conducted by their PCPs during routine clinical care such as annual Medicare wellness visits. It is important to make providers in your community aware of your LHD's fall prevention program so they can refer patients who screened at risk for falls.

Fall risk screenings can also be conducted by LHD staff at community events such as health fairs or completed by older adults or caregivers. There are paper-based evidence-based fall risk screeners available to use such as CDC's Stay Independent Screener Stay Independent (cdc.gov) or the online, interactive Falls Free Checkup (ncoa.org). Your LHD may consider advertising its fall prevention programs at community events where screening can take place or creating brochures with evidence-based screeners for older adults to screen themselves and enroll in your LHD's fall prevention program.

Another opportunity is to identify older patients through frequent 911 calls for a fall-related emergency. About 20% of fall-related 911 calls are not transported to a higher level of care, and many older adults make several 911 calls for falls over the year.[2,3] This is a potential opportunity for first responders (e.g., EMS, fire department) to identify older adults at risk for a fall who may otherwise be missed. For instance, for calls when a lift assist (defined as an event where a patient is lifted to a more mobile position) is performed, first responders can refer the patient to the fall prevention program.

Lastly, another option to identify older patients at risk for a fall is to reach out to older patients who were seen in an ED or were hospitalized because of their fall-related injuries. These patients can potentially be referred by physicians, care coordinators, patient navigators, and/or social workers who work within the ED and Trauma Centers of local hospitals. It is important to make these key partners aware of your LHDs fall prevention programs.

Once older adults are identified as being at an increased risk of falling, they need to be referred to the team member or clinical partner capable of assessing for assessing their modifiable fall risk factors and recommending interventions (community paramedic, physical therapist, primary care provider, nurse, etc.).

Key Activity 3: Assess Fall Risk Factors and Recommend Interventions

Fall prevention programs utilize fall risk assessments to understand which factors are contributing to an older adult's fall risk to inform interventions. These assessments should be conducted by someone with clinical training, such as a physician, nurse, community paramedic, physical therapist, or occupational therapist.

Once fall risk factors have been identified through the fall risk assessment, the clinician and participant can collaborate to create an action plan by identifying evidence-based interventions that can reduce fall risk. Identified fall risk factors and referrals to community partners for recommended interventions should be detailed and documented on a plan for the older adult to refer to and forwarded to their PCP. Details on specific fall risk assessments and interventions that LHDs can consider are outlined in the following section. **The risk factors assessed, and the interventions offered will depend on the resources of the LHD and the community. Not all communities will be able to offer or partner with organizations to offer all assessments or interventions.** It is important to discuss these fall risk factors in detail with the participant. This can facilitate the development of an action plan to address each fall risk factor, as outlined in the STEADI Initiative's Talking about Fall Prevention with Your Patients.

See the table below for a list of fall risk factors that may be identified in a fall risk assessment and potential referrals to evidence-based interventions in your community. If these interventions are not offered through the LHD, they may be a service provided through a community-based and/or clinical partner.

Fall Risk Factors	Assessment	Clinical- and/or Community-Based Referral Options
Problems with gait, muscle strength, balance	Timed Up and Go, 30 second chair stand, 4-stage balance test	**Clinically Based:** Physical Therapy **Community-Based:** Otago Exercise Program, Stepping On, Tai Chi for Arthritis and Falls Prevention, YMCA Moving for Better Balance
Fear of falling	Fall/medical history	**Clinically Based:** Occupational Therapy, Physical Therapy
Vision impairment	Snellen eye chart	**Clinically Based:** Ophthalmologist, Low Vision Occupational Therapist
Hearing impairment	Fall/medical history	**Clinically Based:** Audiologist
Orthostatic hypotension	Orthostatic blood pressure	**Clinically Based:** PCP
Home hazards	Check for safety brochure, PEAT, other home hazards assessments	**Clinically Based:** Occupational Therapist **Community-Based:** CAPABLE, Home Hazards Removal Program (HARP), Community organizations that perform home safety assessments and install home modification equipment (e.g., grab bars, shower chairs)
Medications that may increase fall risk	Medication review	**Clinically Based:** Pharmacist within a neighborhood pharmacy, PCP
Malnutrition	Fall/medical history	**Clinically Based:** Nutritionist, PCP **Community-Based:** Community-based nutrition programs
Social isolation	Psychosocial Assessment	**Clinically Based:** Psychologist, Licensed Clinical Social Worker, Mental Health Clinician **Community-Based:** Healthy IDEAS (Identifying Depression, Empowering Activities for Seniors)

The following section details the fall risk assessments and interventions your LHD, and community and clinical partners can offer. It is not necessary to conduct all assessments or offer all interventions. The specific assessments and interventions offered will depend on LHD and community resources.

Home Modification and Safety Assessment

Home hazards such as improper lighting, broken stairs, and throw rugs may increase the risk of falls among older adults. Programs which are conducted in older adults' homes offer additional insight into potential environmental hazards that office-based fall prevention programs may miss. Occupational therapists and community paramedics can help older adults identify hazards in or around their home. The STEADI Initiative includes the Check for Safety: A Home Fall Prevention Checklist for Older Adults, which poses questions about individual rooms in a participant's home and includes home modification suggestions such as removing or taping down throw rugs and installing grab bars in showers.

Many programs use the Physical Environment Assessment Tool Physical Environmental Assessment Tool (PEAT),[4] which was developed specifically for Emergency Medical Technicians (EMTs) to evaluate the quality of safety in the patient's home. The categories for the PEAT scale include cleanliness, social structure, hazards, and environmental issues vs. patient issues.[5] Based on the participant's responses to the questions posed in the PEAT scale, the scoring section will identify if the patient is living in a healthy environment or has areas of improvement that prompt intervention.

There are several additional standardized home safety assessments, often administered by trained clinicians, which can add to your fall prevention programs:[6]

- Home Safety Self-Assessment Tool
- Home Falls and Accidents Screening Tool
- Westmead Home Safety Assessment
- In-Home Occupational Performance Evaluation

A potential barrier is that program participants may not be able to pay for suggested home modifications, including a non-slip mat for a shower and grab bars. Try to identify community organizations or clinical services that can provide some of this equipment to older patients who are unable to purchase home modifications. Consumer Awareness Strategies provide educational resources based on home modifications for fall prevention.

Physical Examination

Components of a physical examination can be conducted by a healthcare provider such as a physician, PT, nurse, or community paramedic. The physical examination encompasses various categories of potential fall risk factors, including visual acuity, strength, gait, balance, and orthostatic vital signs.

- **Vision Acuity:** Visual impairment is associated with older adult falls. Due to vision worsening with age, it is vital for older adults to have an annual dilated eye exam. If the patient's eye exam is not included in their medical records or they have not had a recent eye exam, the clinical fall prevention program representative can assess the participant's vision acuity by utilizing the Snellen Eye Chart and recommend patients see their eye care provider annually.[7]

- **Strength, Gait, and Balance:** Loss of muscle mass, or sarcopenia, and decreased strength is a part of the aging process that is influenced by an individual's diet and exercise.[8] Aging also affects an individual's gait (an individual's movement sequence as they walk) and balance (an individual's ability to evenly distribute weight from their base). The clinical fall prevention program representative can utilize the Timed Up and Go Test (TUG Test), 4-Stage Balance Test, and 30-Second Chair Stand to assess the participant's strength, balance, and gait.[8]

- **Orthostatic Vital Signs:** Orthostatic hypotension is a significant risk factor for older adult falls. Orthostatic blood pressure can be measured by a clinician. As part of the STEADI Initiative, the CDC has a guide for measuring patients' orthostatic blood pressure.

Findings from the physical examination should be communicated to the patient's PCP with the participant's permission. Specifically, PCPs should be made aware of their patient's scores on the gait, strength, and balance assessments and orthostatic hypotension symptoms. From there, the patient's PCP or a clinical team member may be able to manage orthostatic hypotension and refer patients to physical therapy to address gait, strength, and balance issues. Older adults may also benefit from referrals to evidence-based community fall prevention programs if they are available in the community or are operated through the LHD to help improve strength and balance. Make sure to discuss results of the strength, gait, and balance assessments with the patient as well. Explain to the patient that recommendations such as physical therapy or community fall prevention programs can help with gait, strength, and balance impairments.

Medication Inventory and Reconciliation

Polypharmacy, or taking multiple medications for many different chronic conditions, is common among older adults. Physicians, pharmacists, nurses, or community paramedics may review a full list of the participant's medications to ensure the patient is taking as prescribed, as well as determine if any of their current prescriptions have side effects that could increase fall risk. Prior to medication review, the patient must give written consent. If medications that increase an older adults' risk of falls are identified, the participant's PCP should be informed so they can appropriately manage the patient's medications and consider reducing doses, or switching to another, less risky medication. STEADI-Rx provides a list of medications that increase fall risk which include, but are not limited to:

1. Antidepressants
2. Antihypertensives
3. Benzodiazepines
4. Opioids

Participants should talk with their PCP before making any changes to their medications.

Psychosocial Assessment

One-fourth of older adults in the United States are socially isolated, which is associated with a host of health consequences, including an increased risk of dementia, heart disease, and premature death.[9] Social isolation is also associated with depression, which is strongly correlated with falls.[10] Individuals who are socially isolated are significantly less likely to engage in regular physical activity and are more sedentary,[11] which could subsequently lead to problems with gait over time[12] and increase their risk of sarcopenia.[13,14]

A nurse, social worker, or community paramedic can screen participants for social isolation or chronic loneliness using evidence-based screeners such as the UCLA Loneliness Scale, the updated 3-item UCLA Loneliness Scale, or the De Jong Gierveld Loneliness Scale.

If the participant screens positive for social isolation, they can be referred to appropriate resources. For example, an evidence-based, in-home program that may be offered in the community is the Healthy IDEAS Program, which assesses older adults for depression, provides case management and depression management, and encourages participation in activities. Typical community-based referrals for social isolation are local senior centers, which provide a social outlet for older adults. Additional resource ideas are outlined in the *Reducing Loneliness and Social Isolation among Older Adults* handout provided by the Suicide Prevention Resource Center. Team members can discuss results of a participant's psychosocial assessment with their PCP to discuss intervention options for the participant to ensure they have ample support.

Key Activity 4: Care Coordination and Follow-Up

This activity includes the development of a care coordination plan to ensure participants are receiving appropriate and community-based referrals in a timely manner and that there is follow-through on behalf of the patient and primary care physician.

The fall prevention program staff can follow up with participants and their primary care providers to ensure that the patient is following through with recommendations and discuss any barriers that prevent follow-through.

It is recommended that a team member follow up with program participants and their PCP n 30-day and 60-day follow-up calls to discuss any new falls patients have had, whether patients are more or less worried about falling, and what recommendations patients and PCPs have followed up on. Follow-up call data can be entered into a tracking tool or the preferred patient monitoring software (e.g., EPIC or ImageTrend) to evaluate the efficacy of the program.

Key Resources

The following resources provide detailed information on some of the key activities and interventions of a fall prevention program.

- **STEADI (Stopping Elderly Accidents Deaths & Injuries (CDC)**
  A compilation of resources for clinicians, patients, and caregivers to help integrate fall prevention into routine clinical practice.

- **Coordinated Care Plan to Prevent Older Adult Falls (CDC)**
  A plan for primary care providers to implement older adult fall prevention within their practice. This plan is meant to be used alongside the CDC STEADI: Evaluation Guide for Older Adult Fall Prevention Programs.

- **Homemods.org (USC Leonard Davis)**
  A webpage with resources for providers, older adults, and caregivers to support education about home modifications.

- **Community Paramedic Program Handbook (Western Eagle County Health Services District and the North Central EMS Institute)**
  A guide with information about developing a community paramedicine program, including insights regarding program feasibility, state regulations, partner commitment, training, policies and procedures, and evaluation.

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How Should LHDs Monitor and Evaluate Their Program?

Monitoring and evaluation are critical components in the development of any public health program. Effective program evaluation is a systematic way to improve and account for public health actions by using procedures that are useful, feasible, ethical, and accurate. Evaluations should occur throughout the life span of a program, from inception and planning to implementation, delivery, and re-design.[1] The evaluation of a fall prevention program allows a LHD to understand its feasibility and sustainability after implementation, as well as its effectiveness in mitigating fall risk factors. The evaluation of fall prevention programs is not solely outcomes-based to prove the effectiveness of reducing falls in participants, but can also investigate a multitude of data points and topics to understand why the program is effective. After reading through this section to learn more about different types of evaluation design, consider using the "Rural Health Innovations Project Evaluation Plan Template" for templates to fill out to help design the evaluation plan.

Evaluation Process

The process of determining the most appropriate evaluation design requires the collaboration of clinical and community partners to create a feasible evaluation design based on the available data or data that is feasible to collect. The graphic to the right visualizes the necessary beginning steps for conducting an effective program evaluation.[2] It was developed by the CDC to help guide public health professionals in evaluating programs. It is a practical, nonprescriptive tool, designed to summarize and organize the essential elements of program evaluation. The framework is comprised of the below six steps in evaluation practice and standards for evaluation.[1,3]

Figure 5: Adapted from: Centers for Disease Control and Prevention. Framework for program evaluation in public health. MMWR 1999;48 (No. RR-11)

- **Step 1: Engage partners.**
  Engage the partners identified in Section 3 of the guide. Partners can include clinical staff, older adults, caregivers, funding agencies, and policy makers.
- **Step 2: Describe the program.**
  The program description includes the need for a fall prevention program as identified in Section 1, how a program will identify older adults at risk for falls as described in Section 4, and a logic model such as the one created in Section 2.
- **Step 3: Focus the evaluation design.**
  Determine which type of evaluation is the most appropriate for your program. The types of evaluation will be discussed in more detail later in this section.

- **Step 4: Gather credible evidence.**
  Credible evidence should answer the posed evaluation question. Evidence may include key metrics such as the number of older adults referred to the fall prevention program, the percentage of older adults assessed for fall risk factors, or the number of fall-related 911 calls after program implementation.

- **Step 5: Justify conclusions.**
  Conclusions are supported by analyses collected from evaluation methods mentioned in the previous step. Data analyses can support certain conclusions, such as there being a decrease of fall-related 911 calls and fall-related emergency department visits among program participants after their involvement in the clinical older adult fall prevention program.

- **Step 6: Ensure use and share lessons learned.**
  One example of this would be to create a webinar for community- and clinically based partners for the program to provide an outline of lessons learned and to show the program's impact on participants.

Adherence to the above six steps will facilitate an understanding of a program's context (e.g., the program's history, setting, and organization) and will improve how most evaluations are designed and conducted.

Evaluation Design

The evaluation purpose, which is identified by the LHD and their engaged partners, will inform what type of evaluation should be conducted, and identify the evaluation question(s). The CDC STEADI: Evaluation Guide for Older Adult Clinical Fall Prevention Programs provides several evaluation purposes and evaluation examples that LHDs can consider. Due to the iterative nature and multi-stage process of program evaluation, there are several types of evaluations that can be conducted, including the following:[1]

- **Formative evaluation** ensures a program or program activity is feasible, appropriate, and acceptable *before it is implemented*. It is usually conducted when a new program or activity is being developed or when an existing program is being adapted or modified.

- **Process/implementation evaluation** determines whether program activities have been implemented as intended.

- **Outcome/effectiveness evaluation** measures program effects in the target population by assessing the progress in the outcomes or outcome objectives that the program will achieve.

- **Impact evaluation** assesses program effectiveness in achieving its ultimate goals.

Evaluation Types	When to Use	What it Shows	Why it is Useful
Formative Evaluation Evaluability Assessment Needs Assessment	▪ During the development of a new program. ▪ When an existing program is being modified or is being used in a new setting or with a new population.	▪ Whether the proposed program elements are likely to be needed, understood, and accepted by the population you want to reach. ▪ The extent to which an evaluation is possible, based on the goals and objectives.	▪ It allows for modifications to be made to the plan before full implementation begins. ▪ Maximizes the likelihood that the program will succeed.
Process Evaluation Program Monitoring	▪ As soon as program implementation begins. ▪ During operation of an existing program.	▪ How well the program is working. ▪ The extent to which the program is being implemented as designed. ▪ Whether the program is accessible and acceptable to its target population.	▪ Provides an early warning for any problems that may occur. ▪ Allows programs to monitor how well their program plans and activities are working.
Outcome Evaluation Objectives-Based Evaluation	▪ After the program has contacted at least one person or group in the target population.	▪ The degree to which the program is influencing the target population's behaviors.	▪ Tells whether the program is being effective in meeting its objectives.
Economic Evaluation (Cost Analysis, Cost-Effectiveness Evaluation, Cost-Benefit Analysis, Cost-Utility Analysis)	▪ At the beginning of a program. ▪ During the operation of an existing program.	▪ What resources are being used in a program and their costs (direct and indirect) compared to outcomes.	▪ Provides program managers and funders a way to assess cost relative to effects.
Impact Evaluation	▪ During the operation of an existing program at appropriate intervals. ▪ At the end of a program.	▪ The degree to which the program meets its ultimate goal or an overall goal of reducing falls.	▪ Provides evidence for policy and funding decisions.

Centers for Disease Control and Prevention: National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. (n.d.) Types of Evaluation. Retrieved from: https://www.cdc.gov/std/program/pupestd/types%20of%20evaluation.pdf

To plan the evaluation in accord with the most appropriate evaluation method, it is important to understand the difference between evaluation types. There are a variety of evaluation designs, and the type of evaluation should fit the development level of the program or program activity. The program stage and scope will determine the level of effort and identify what methods are to be used.

Types of Key Metrics

Metrics, also known as indicators, are measurable information used to determine if a program is implemented as expected and is achieving outcomes. Indicators not only help understand what happened or changed but can also help ask questions of how changes happened.[4] The types of metrics LHDs will measure are determined by the type of evaluation they choose to do. These key metrics will need to be utilized to answer the evaluation question.

The choice of indicators will often inform the remaining areas of the evaluation plan, including evaluation methods, data analysis, and reporting. Indicators can either be quantitative or qualitative and serve a vital role in program improvement throughout the program's life cycle.

Indicators can relate to any part of the program, below are two common categories of indicators.

- **Process indicators** measure the program's activities and outputs (direct products/deliverables of the activities). Together, measures of activities and outputs indicate whether the program is being implemented as planned.[1] Examples of process indicators for a fall prevention program may include the number of program staff trained to assess fall risk factors or the number of physicians who agree to refer their older patients to fall prevention services.
- **Outcome indicators** measure whether the program is achieving the expected effects/changes in the short, intermediate, and long term.[1] Examples of outcome indicators for a fall prevention program may include the number of older patients screened for fall risk, number of patients assessed for fall risk factors, number of older adults who reported going to physical therapy (short-term) or number of reported falls, or fall-related emergency department visits (long-term).

Another important aspect of evaluation is considerations for access/availability of data.[5] There are a few common questions to think about when determining what resources can be used to analyze program evaluation.

- **What data are you already collecting or have access to?**
  - » Explore what data points are currently being collected or are easily accessible that answer evaluation questions.
  - » If you are already collecting data as part of performance measurement activities, you can build upon that information to provide data for your evaluation.
  - » Once you know what data you have available, identify any gaps in information that you will need to collect new data to address your evaluation questions.
  - » Conducting this type of data review will help maximize resources.
  - » Potential fall-related data LHDs may consider collecting are: the number of older patients admitted to local hospitals for fall-related injuries, 911 calls made for fall-related circumstances, and healthcare costs associated with treating fall-related injuries.

- **How much of your evaluation budget can be allocated to data collection?**
  - » Some forms of data collection are more expensive than others. The costs depend on a variety of factors such as complexity and length of the data collection instruments, number of respondents, and already existing data.
- **How much staff time can be devoted to data collection?**
  - » Knowing how much staff time can be allocated to the evaluation will significantly reduce costs and build staff evaluation capacity.
- **What are the areas of expertise for each staff person?**
  - » Utilizing the expertise of existing staff ensures that you won't have to depend on external evaluation services for the data collection process.

Use Data for Quality Improvement

The use of data at every stage of a quality improvement (QI) initiative helps inform the progress and outcomes of the work. The information provided is a result of testing new strategies and can be used to advocate for change. Data is for learning, not judgement, and the lesson is whether and how changes result in improvement.[6]

Understanding a system is the first step in making any type of improvement. One way to identify areas to change that lead to better outcomes for populations is to identify where the challenges are and what practices could more efficiently result in desired outcomes. Once areas for improvement are defined, if baseline data is available, use it. If not, the initial data points in an improvement project can be a substitute baseline. Quality improvement indicators can include rates of completed participant referrals to clinical providers, 30- and 90-day follow-up surveys with participants to see if they had any falls after program participation, and a decrease in 911 calls for fall-related injuries.

Data collected to understand improvement over time shows progress made and serves as a guide of which changes are beneficial and which need improvement to meet the desired outcomes.

Although a QI initiative may formally end, data should still be collected to ensure that any improvements are maintained and to monitor the long-term impact of system changes. You may not need to collect at the same frequency but continue to monitor the data often enough to be kept up to date of any new activity.

Assess Impact of Programs and Services

In contrast to process evaluation, impact evaluation models are designed to reflect the cause and effect of implemented programs to determine if an intervention achieves its intended goals and outcomes.[3,7,8] The intended outcomes of a program can be identified on the right side of a program's logic model.[2] For example, For example, the outcomes listed in the logic model for Sample County's fall prevention program (located in Appendix C) are shown here and are divided into short-, medium-, and long-term outcomes.

In general, fall prevention programs tend to use outcomes from the following activities to assess effectiveness:[3]

1. Fall risk screening
2. Assessment of an individual's fall risk factors
3. Interventions to mitigate fall risk factors
4. Participant follow-up (at 1 month, 3 months, 6 months)

It is important for fall prevention programs to plan their outcome evaluation and data collection process early in the program planning process (see Section 4). If this is planned after a program has already been implemented, there is a chance the program may miss an opportunity to collect data that is crucial to the outcome evaluation such as participant follow-up call data.

After identifying the outcomes that the evaluation will assess, clinical fall prevention programs can develop outcome evaluation questions, which can be developed with the help of the program's logic model. The goal for developing **outcome evaluation questions** is to reflect the short-, medium-, and long-term outcomes and the program needs identified by the program's key stakeholders.[3,9]

Refer to the CDC STEADI: Evaluation Guide for Older Adult Clinical Fall Prevention Programs for a short list of examples of outcome evaluation questions.[3]

Outcomes evaluation questions:

1. How much has the fall prevention program increased fall risk screening among older patients?
2. Has the number of older adults receiving physical therapy to prevent falls increased?

Challenges with Program Monitoring and Evaluation

Despite careful planning during a program's implementation stage of short-, medium-, and long-term outcomes; outcomes evaluation questions; and data collection, there are often unforeseen challenges that arise. The following table identifies potential challenges identified in the *Rural Health Information Hub: Rural Aging in Place Toolkit* and feedback from key interviews with existing clinical fall prevention programming.[10]

CHALLENGES	SOLUTIONS
Ensuring clinical older adult fall prevention programs prevented negative outcomes	▪ List program activities and processes associated with them ▪ Use follow-up calls and/or surveys to receive feedback from the older adult of what they deem as the reason for prevented negative outcomes (e.g., referral to Occupational Therapist, home modification recommendations)
Determining the effectiveness of aging in place strategies in individual homes	▪ Use multiple evaluation measures to assess the program's effectiveness
Lack of evaluation measures designed for use in rural aging in place settings	▪ Obtain an increased amount of stakeholder support to assist in the evaluation process to define appropriate evaluation measures
Data sharing restricted across multiple hospitals due to HIPAA	▪ An Institutional Review Board (IRB) is an administrative body established to protect the rights and welfare of projects involving people. Confirming IRB approval for the project will allow for communities with multiple hospitals to have data sharing software for older adults enrolled in the fall prevention program ▪ Implementation of a data sharing software (i.e., ImageTrend)
Research & Evaluation staff overwhelmed with data requests for multiple projects	▪ Develop a standing data request for key metrics used to determine answers to outcomes evaluation questions ▪ Use multiple evaluation measures to assess the program's effectiveness rather than solely relying on documentation review (e.g., focus groups, key informant interviews)

Key Resources

- CDC STEADI: Evaluation Guide for Older Adult Clinical Fall Prevention Programs
  Centers for Disease Control and Prevention. An evaluation guide for local health departments to evaluate their older adult clinical fall prevention programs.

- A Framework for Program Evaluation
  Centers for Disease Control and Prevention: Program Performance and Evaluation Office. A webpage detailing the purpose of program evaluation to assist in determining what type of evaluation would work best for local health departments.

- Indicators: CDC Approach to Evaluation
  Centers for Disease Control and Prevention: Program Performance and Evaluation Office. A webpage outlining the types of data indicators to consider.

- Types of Evaluation
  Centers for Disease Control and Prevention: National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention. A document detailing the types of evaluation.

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How can LHDs sustain their older adult fall prevention program?

One key consideration for LHDs to keep in mind, is how to make their clinical fall prevention program sustainable. In other words, how can the program continue to provide its services that benefit community-dwelling older adults over time?[1] There are four elements to consider when addressing a program's sustainability:[2]

1. Funding
2. Program expansion
3. Partnerships
4. Outreach

While going through this section, consider discussing these elements within a small group. The CDC's Healthy Communities Program: Sustainability Planning Guide provides a template with the following points that can be completed with about 4-5 representatives from the LHD and partners:

- Strategy
- Activities
- Begin/End Dates
- Partners
- Status
- Barriers
- Reach

Funding

A challenge that LHDs could face during any implementation stage is how to receive continuous funding for sustainability. It is vital for programs to search and plan for solutions of how to fund their program, even in the early stages of planning and implementation. LHDs can identify funding opportunities through local government partnerships, such as their Agency on Aging. Another path could be to partner with state or local hospitals who are seeking to address older adult falls, particularly hospitals certified as a Level I Trauma Center. Level I Trauma Centers are required to hold injury prevention activities in their communities as part of their certification from the American College of Surgeons.[2] Another potential funding source are in-kind contributions to the prospective fall prevention programs.

The cost-effectiveness of multifactorial fall prevention is an important point when advocating for funding opportunities. One study found that, when comparing the cost of a multifactorial targeted prevention approach versus a usual care approach, the multifactorial targeted prevention approach accrued an average of $2,000 less in healthcare costs and led to a lower incidence of falls.[3]

Community paramedicine programs have cited grants as a key funding resource to begin their clinical older adult fall prevention program. However, searching and applying for grants can be a time-consuming process. There are existing grant opportunities through organizations that address older adult fall prevention, including the National Council on Aging and the Administration of Community Living. Overcoming Obstacles to Effective Senior Falls Prevention and Coordinated Care: A Toolkit for Program Success provides an extensive list of government funding options, non-government funding options, and pay for success models.

The following flowchart shows how LHDs can develop a financial sustainability plan:[3]

The first recommendation of addressing sustainable funding for a clinical older adult fall prevention program is to create a **financial stability committee** or a temporary work group within the LHD. From there, the committee can take these steps:[4]

1. **Communication with Team Members and Key Partners:** If there are clinical fall prevention team members and/or key partners who are not on the financial stability committee, it is recommended that the financial stability committee communicates budgetary updates. This can provide them with an opportunity to offer suggestions for funding opportunities and create mutual trust with the team.
2. **Internal Audit:** The financial stability committee can garner an understanding of where the LHD's internal budget currently stands, how much funding will come in for the following two years, from where the money comes, and how much of that funding can go to the clinical fall prevention program.
3. **Identify Program Activities:** The financial stability committee will review the fall prevention program's current activities and determine if there should be additional program activities.
4. **Program Activity Cost:** After listing the program's current activities and the future program activities, determine how much each program activity will cost. This includes but is not limited to staffing, technology, equipment, and overhead costs. This should only be a baseline cost and the minimum that is needed to perform the program's activities.
5. **Budget Determination:** After reviewing the costs for each program activity, the financial stability committee will determine how much funding is needed to create financial sustainability. This does not need to be the baseline cost, but instead what your ideal funding would be.

From there, the financial stability committee should determine the annual cost of the program and how much is needed to sustain the program for a few years' time.

Program Expansion

After the program's implementation, there may be a goal to expand key activities and services, as fall prevention programs with a multifactorial approach have demonstrated effectiveness.[5] For instance, a program may begin by offering a limited number of key activities, including evidence-based fall prevention programs through a local senior center, home safety assessments and modifications, and referrals to clinical providers (e.g., physical therapy, occupational therapy). After analyzing the most common fall risk factors, this may determine that there are high rates of participants who are prescribed medications that present a risk of falling, and these participants might benefit from a program activity where they undergo a medication review.

Programmatic growth will require the LHD to undergo a planning process to carefully determine the next steps and how to sustain new program activities. It is recommended to meet with partners to discuss the elements outlined in the template at the beginning of this section (strategy, key activities, begin/end dates, partners, status, barriers, and reach).

Partnerships for Sustainability

In *Section 3: What Partners Should Local Health Departments Work With?* the importance of the development and fostering of partnerships in the community was stressed. As part of a fall prevention program's sustainability, LHDs should routinely consider a partner's role and seek new opportunities when stagnant partnerships are no longer serving your needs.[2]

As mentioned in Section 3, there is an opportunity for LHDs to partner with many other organizations to establish this fall prevention program. This can help sustain the funding of the program in addition to ensuring the program is well-established in the community. For example, potential partnerships can be with local community colleges and colleges with programs in occupational therapy, physical therapy, and pharmacy, who are seeking to offer students community outreach experiences. These opportunities will be supervised by an instructor.

- Occupational therapy students may be seeking opportunities to conduct home safety assessments with follow-up recommendations.
- Physical therapy and physical therapy assistant programs may be seeking opportunities to conduct fall risk assessments with follow-up recommendations.
- Pharmacy students may be seeking opportunities to conduct medication reviews with follow-up recommendations.

Outreach

Lastly, it is important for LHDs to continuously outreach to their communities to provide information about the clinical fall prevention program and how to access the program. LHDs can develop partnerships between community-based programs and clinicians, which would not only enhance care coordination but also increase awareness of services.[5] LHDs can develop outreach materials for community-dwelling older adults which describe the program's services and opportunities.

It is recommended that LHDs include the following elements within their outreach materials:[2]

- Whom the program serves
- What fall prevention services are offered
- How much will the program cost older adults
- When and where the services are offered

LHDs should be conscious of the terminology they use in their materials. One challenge that is often cited for clinical services for older adults is that older adults may feel uncomfortable with labels and terminology that are present in outreach materials, including "aging in place," which can cause them to disengage from participating in those potential programs. For example, the term "fall" can have a negative connotation and older adults may respond more favorably to "stay independent" rather than "fall prevention." A communications toolkit that addresses this is the *Gaining Momentum* from FrameWorks Institute.

When they become available, LHDs can also include data points outlining the program's success identified through program evaluation efforts (e.g., reduction of emergency department visits for fall-related injuries, reduction of 911 calls for fall-related injuries) and success stories of program participants.

After putting together these materials, LHDs should develop a list of outreach locations where the materials should be disseminated. They may include primary care providers and senior centers as well as providing them to key partners to disperse.

Key Resources

» **CDC's Healthy Communities Program: A Sustainability Planning Guide for Healthy Communities**
CDC's Healthy Communities Program. A guide to assist local health departments in creating sustainability for their programs.

» **The University of Kansas Community Tool Box: Developing a Plan for Financial Sustainability**
The University of Kansas: Center for Community Health and Development. Guidance to develop a financial plan for a program's sustainability.

» **Healthy Housing Solutions, Inc.: Overcoming Obstacles to Effective Senior Falls Prevention and Coordinated Care**
Healthy Housing Solutions, Inc. A guide outlining various roadblocks for fall prevention programs and how local health departments can overcome them.

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Older Adult Clinical Fall Prevention

SWOT ANALYSIS

S W O T

STRENGTHS

- What does your local health department do well with prevention initiatives?
- What internal resources (e.g. skills, knowledge) can you leverage?
- What unique resources exist in the community to support older adults?

WEAKNESSES

- What needs improvement in the services you offer older adults?
- What challenges do you experience in working with clinical partners (e.g. to support older adults or other prevention intitiatives)?
- What are the limitations or gaps in current resources available?

OPPORTUNITIES

- What new clinical partners could you collaborate with?
- How could you reach new or more older adults in your community?
- How can you leverage your strengths as opportunities?

THREATS

- What policies or regulations could challenge program implementation or sustainability?
- What factors could threaten your ability to initially engage and sustain participation from older adults?
- What systems (e.g. processes or technology) could challenge care coordination across partners?

STRENGTHS	WEAKNESSES
THREATS	OPPORTUNITIES

Case Study #1

Showcasing Community Paramedicine Programs from Around the Country

Developing Capacity to Support Older Adult Fall Prevention

Brought to you by the National Association of State EMS Officials

Agency Demographics

Geographic Location: Umatilla County, Oregon

Population: Rural

Type of Service: Fire Based Agency

Time in Operation: 4 years

# of Patients Served: 100 / year

Staffing Model: Community Paramedics, CHW

Assessment:

The patient was an older female who lived alone, with little to no family support. She was experiencing episodes of dizziness, which resulted in many falls and injuries. After she was admitted and discharged from the hospital, she was referred to the Community Paramedic program. The Community Paramedic (CP) was referred by the patient's Primary Care Provider (PCP) to follow up on her injuries, a full patient assessment was conducted, which included a home safety inspection and a fall assessment. During the medication reconciliation, the CP found that the patient's medications were not compatible, resulting in significant hypotension/low blood pressure, which is a risk factor for falls. Upon further assessment, she admitted to feeling dizzy right before her falls.

Interventions:

The CP immediately contacted the patient's PCP to discuss the findings. The PCP advised the CP they had prescribed new medications for the patient to correct the problem.

Outcomes:

The CP continued to follow up with the patient, ensuring the new medication regimen was properly working. As a result of the interventions, the patient did not report any additional falls.

Case Study #1: Umatilla County, Oregon

Umatilla County Fire Department

The Community Paramedic (CP) program started in June of 2017 as a collaborative effort between Umatilla County Fire District 1 and Good Shepherd Medical Center. To date, the program has provided nearly 700 home visits. The CP conducts in home visits along with a ConneXions Community Health Worker (CHW) to address both the medical and social needs of their patients. The program covers two counties and works with many community partners including primary care offices, mental health providers, substance abuse providers, Department of Human Services, Home Health, Hospice, and other organizations.

The program initially began to focus on high utilizers of the 911 system and has since expanded to include post hospital patients with risk for readmission, frequent fallers, and welfare checks from primary care offices. The CP conducts in home visits to provide a home and health assessment including physical examination and vital signs, fire and fall risk assessment with smoke alarm installation if needed, discharge instruction education, disease and diagnosis education, medication reconciliation, lab draws, some lab testing including 12 lead EKG's, urinalysis, and A1C, infant weight checks, and more.

The CP works to identify potential problems and correct them immediately through education, coordination with primary care providers, and connection to social services for additional intervention.

This case study was created with support from the Centers for Disease Control and Prevention (CDC) and the National Association of County and City Health Officials (NACCHO)

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December 2021

Case Study #2

Showcasing Community Paramedicine Programs from Around the Country

Developing Capacity to Support Older Adult Fall Prevention

Brought to you by the National Association of State EMS Officials

Agency Demographics

Geographic Location: Eagle County, Colorado

Population: Rural

Type of Service: County Agency

Time in Operation: 12 years

# of Patients Served: 300 / year

Staffing Model: Community Paramedics

Assessment:

The patient is a 76-year-old female that was referred by her Primary Care Provider (PCP) to the Community Paramedic (CP) program for evaluation of medications, safety in the home, and the ability to live on her own. Over the past 4 months, the patient has called 911 at least once weekly, and called even more often because of a fall. She is estranged from her family and has no support system. The initial evaluation of the patient reveals an older female living alone with a diagnosis of Parkinson's disease. The patient had mobility issues due to loss of balance and strength combined with the fact that she is a hoarder. There was serious concern that she would need to be moved to a long-term care facility due to multiple falls and an inability to manage her medications.

During the visit it was noted that the patient is having a very difficult time keeping her medications straight and missing multiple doses per week. It is also determined that due to the hoarding situation, the patient is at an increased risk of future falls.

Additionally, on the first visit it is noted that there was very little room in the home to navigate due to the vast amount of clutter in the home. In some places there was only a 2-foot path that would wind between furniture, boxes and other things. The patient was also supposed to be using a walker, however, there is no room in the home for this to be used.

Case Study #2: Eagle County, Colorado

Interventions:

After the initial visit, the PCP referred the CP to visit twice a month. Over the first 3-4 visits the CP helped the patient clean and organize the home, however, it became apparent that this would not be enough to minimize the risk for falling. The CP discussed with the patient about getting rid of her oversized furniture and replacing it with smaller pieces. A local consignment furniture company was brought in to haul her old furniture away. The CP followed the truck back to the store and traded the larger furniture for smaller pieces and then went back to the house to help set up the new spacious arrangement. Over the next couple of months, the CP spent time assisting the patient in purging roughly 40% of the boxes and belongings that she no longer needed or used.

Outcomes:

The CP program stayed involved with the patient since 2011, visiting her home every 2 weeks. The program continued to see the patient until 2020 when she developed Covid-19. At that time the patient was placed in a long-term care facility and subsequently never returned home.

It is believed that without the CP program involvement, there was no way the patient would have been able to remain living on her own for the additional 9 years.

Eagle County Paramedics

As the first rural CP program to be developed in the nation, they paved the way for many programs today. Since 2009, they have expanded their program to include the following interventions: Post discharge follow-up, mental health crisis response, medication reconciliation, immunizations, home safety/fall risk assessments, chronic disease management, and health screening & education. The award-winning program successfully involved every healthcare partner in the community, contributed to a 75% reduction in readmission rates, and established the CP as a certified provider through the State Legislator.

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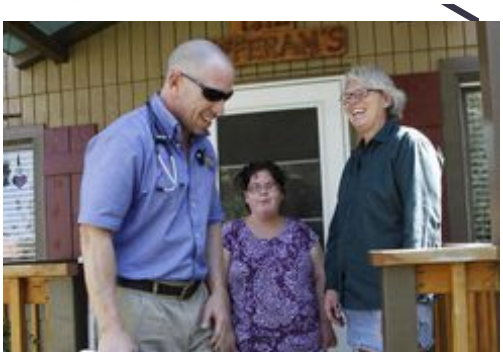
COMMUNITY PARAMEDIC



December 2021

Case Study #3

Showcasing Community Paramedicine Programs from Around the Country

Developing Capacity to Support Older Adult Fall Prevention

Brought to you by the National Association of State EMS Officials

Agency Demographics

Geographic Location:
Crawfordville Fire Department, Indiana

Population: Rural

Type of Service: Fire Based Agency

Time in Operation: 5 years

# of Patients Served: 400 / year

Staffing Model:
Community Paramedics

One important and unique quality of this Community Paramedic (CP) program is the coordination of the Care Conference on a weekly basis. These conferences are coordinated by the CP program and include the hospital's Care Coordinator, representatives from the primary care physician (PCP)offices and CPs who together identify patients that would benefit from the CP program. These care conferences are used to refer new patients or patients with multiple health concerns to help address their health needs.

Assessment:

An older male patient was referred to the CP program via the weekly Care Conference. It was noted that he needed help in multiple areas including fall prevention. The CP started the visit by conducting a safety assessment. The CP continued and assessed for multiple risk factors. It was also noted that he had recently fallen, and it was attributed, in part, to his visual impairments. He was also lacking assistance at home and struggled with activities of daily living. He couldn't even read his mail. The CP noted that the patient may benefit from multiple interventions to prevent future falls, requiring a team-based approach.

Case Study #3: Crawfordville Fire Department, Indiana

Interventions:

The CP reached out to the PCP's Care Coordinator to discuss the findings of their assessment. Together they decided to emphasize to the PCP the concerns with the patient's visual acuity. They suggested referral to an ophthalmologist as one possible intervention.

During the visit the PCP made referrals for adaptive equipment to help the patient stay in their home and live as independently as possible.

The CP visits continued as the team worked on getting the patient the resources he needed. In addition, it was identified that due to his visual impairment the patient was unable to pick out the right medications. The CP assisted by filling a pill box for the patient each week. The CP assisted with coordinating transportation in order for the patient to see his PCP. Along with the need for transportation, the patient needed someone to assist with reading his mail and filling out paperwork so he could file for disability. Due to the patient's lack of support at home, the CP reached out to the local church as a trusted partner who had a vested interest in helping members of the community.

Outcomes:

Once the connections were established with the church, the CP discussed all of the options with the patient. The patient was very thankful and agreed with the plan. He was finally able to get the necessary resources to remain living in his home as independently as possible.

Crawfordville Fire Department

The program focuses on improving the patient-family experience, facilitating access to services, promoting health among community members, allowing citizens to age in place, and filling gaps where other resources and programs do not exist. The program includes the following interventions: Health & wellness programs, health screening & education, immunizations, post hospital admission monitoring, chronic disease management, falls prevention, substance use disorder, behavioral health, & "Project Swaddle." The program leads the way for change and innovation in the state by partnering with high level collaborators such as payors and assisting with passing State Legislation for CP programs.

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December 2021

Sample Logic Model

Program: Sample County Clinical Older Adult Fall Prevention Program Logic Model

Situation: Sample County Health Department seeks to create a clinical older adult fall prevention program with a multidisciplinary staff of community paramedics, a public health nurse, a social worker, and a consultant pharmacist. Sample County will create an integrative partnership with local EMS and Emergency Departments where they can identify older adults at high risk for falls and refer older adult patients to programs to address their fall risk factors with an individualized action plan.

Inputs

Program trainer time

Program staff time

Consultant staff time

Volunteer time

Funding

Offer new or continuing education on older adult fall prevention to community paramedics, including engaging community colleges offering community paramedic training

STEADI Initiative training

Data sharing software (e.g., local and/or state NEMSIS data)

Outputs

Activities

Train community paramedics working for the county EMS agency in older adult fall prevention

Create an integrative partnership with EMS and local hospital emergency departments (EDs) to identify and refer older adult patients who have experienced one or more falls in the past year.

Recruit older adult patients for participation in the Sample County Clinical Older Adult Fall Prevention Program.

Conduct in-home visits with community-dwelling older adults to identify fall risk factors, create a plan to mitigate those risk factors, and make any appropriate referrals.

Implement a data sharing, data collection, and data analysis plan in data sharing software with integrated partnerships.

Participation

Community Paramedic Program Trainer

Program Staff:
- Community Paramedics
- >1 Social Worker
- >1 Public Health Nurse

Consultants:
- >1 Pharmacist

Volunteers:
- Primary Care Physicians
- EMS
- ED staff

Community-dwelling older adults

Sample County Research & Evaluation Staff

Outcomes -- Impact

Short

Community Paramedics will have a thorough knowledge of risk factors that contribute to falls, how to assess those risks, and steps to create an action plan to mitigate individual risks.

Community-dwelling older adults will enroll in this clinical fall prevention program to receive an individual assessment of their fall risk factors.

Sample County Community Paramedic Program will utilize data sharing software to track referral completion rates.

Inception of an integrative partnership between Sample County Health Department, EMS, local hospital EDs, and Sample Community College to address older adult falls.

Medium

Reduction of identified fall risk factors in participants

Higher participation in evidence-based fall prevention programs in Sample County from community-based referrals.

Higher participant referral rates.

Long

Reduction in the percentage of older adults reporting at least one fall in the past year

Reduction in fall-related 911 calls

Reduction in fall-related emergency department visits

Reduction in number of falls

Assumptions

Capacity of the Sample County Community Paramedic Program to implement a Fall Prevention Training Section to train community paramedics in fall risk factors, fall assessments, and the STEADI Toolkit.

External Factors

- Comfort of community-dwelling older adults engaging in the program.
- Receptiveness of older adult participants and their PCPs to follow-through on action items specified in their fall prevention plan.

Goal

Objectives

-
-
-

Tasks	Start Date	End Date	Person/Partner(s) Responsible	Resources Required	Desired Output/ Result