Background

One in four American older adults aged 65 years or older fall annually.[1] Over 14 million American older adults will report a fall and about 9 million (37%) of those falls will result in fall-related injury each year.[1,2] The prevalence of older adult falls and fall-related injuries are expected to rise as the population of the United States continues to age. By the year 2050, the number of older adults in the United States is expected to increase from 58 million (17% of the total US population) in 2022 to 82 million (23% of the total US population).[3,4] Therefore, it is more important than ever to continue to promote healthy aging through falls prevention policies and programs to support older adults and their community.

A fall is defined as an event which results in a person coming to rest inadvertently on the ground or floor or other lower level.[5] For older adults, falls can be physically and psychologically detrimental to their well-being and can reduce their ability to remain independent.[6] The purpose of this issue brief is to inform local health departments about the impact of falls on their community, the importance of community-clinical linkages for falls prevention programs, the components of clinical falls prevention programs, and highlight case examples from local sites.

Falls are serious and costly and can result in severe injury or death for older adults. In 2022 alone, falls among adults 65 and older caused approximately 40,919 deaths, making it the leading cause of injury death for that age group.[7] Additionally, older adult falls result in approximately 3 million emergency department (ED) visits and 1 million hospitalizations annually, costing nearly $80 billion in direct medical expenses.[7,8] Each year around 300,000 older adults are hospitalized for hip fractures related to a fall.[9] Falls are also the most common cause for traumatic brain injuries or other serious head injuries in older adults.[10] In addition to serious physical injuries, falls can also impact mental well-being. Fear of falling or falling again may result in older adults reducing everyday activities, which can lead them to be weaker and increase their risk of falling.[11]

Fall risk assessments utilized in clinical settings can be found in CDC's STEADI (Stopping Elderly Accidents, Deaths and Injuries) initiative.[12] The STEADI initiative focuses on three main elements: 1) screen patients for fall risk, 2) assess modifiable risk factors, and 3) intervene to reduce fall risk by using effective strategies.[12] These three components combined can reduce older adult falls, improve health outcomes and decrease healthcare expenditures.[12] Further, integrating the STEADI assessment creates a standardized process for monitoring and managing older patient's fall risk.[2]

Local Health Departments and Community-Clinical Partnerships

Risk factors for older adult falls are multifactorial, which means they stem from a multitude of factors that are either intrinsic (i.e., existing health conditions) or extrinsic (i.e., home environmental hazards).[13,14,15] Fortunately, older adults can undergo assessments to pinpoint potential fall risk factors and distinguish which factors are modifiable.[16] Following this, they can receive tailored recommendations from several evidence-based strategies to address these risk factors, including medication changes, strength and balance exercises, and community-based fall prevention programs (i.e., Tai Chi for Arthritis). Despite their effectiveness, there has not been widespread adoption of these strategies within clinical and community settings.[17,18,19] In fact, research shows many older adults are not assessed for fall risk after being treated in an emergency department for fall-related injuries and fewer receive recommendations of how to address their fall risk.[20] Even when implemented, there are older adults who do not fully recall fall prevention recommendations made to them.[21] Thus, many older adults at high risk for falls may not receive or comprehend referrals to evidence-based fall prevention strategies that will assist in modifying their fall risk factors.

There is an opportunity for local health departments (LHDs) to collaborate with health providers, first responders, and community-based programs to address older adult falls in their community through initiating collaboratives and partnerships between clinical and community-based settings. "Community-clinical partnerships" refer to collaborations and partnerships between health providers (clinical settings) and community-based organizations and/or resources.[22] The linkage between clinical and community-based settings creates an opportunity for a coordinated public health action to assess fall risk factors in older adults and increase the delivery of evidence-based preventive services. The result is improving access to programs and, thus, enhancing health equity for older adults.

LHDs are uniquely positioned to bridge the gap between community and clinical fall prevention programs to ensure older adults at increased risk for falls are identified, access to evidence-based clinical and community fall prevention resources is increased, and that older adults at risk for falls are connected with clinical and community-based resources to address their fall risk.[22] It is noteworthy that LHDs may not need to create a new program model, rather LHDs may be able to coordinate program activities that are already offered in their community.

Clinical Older Adult Fall Prevention Program Model

A novel way to address the burden of older adult falls is through the implementation of a clinical older adult fall prevention program, which aims to lower older adults' risk of falls through community-clinical partnerships.[23] The clinical older adult fall prevention 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 healthcare system or community to reduce identified fall risk factors.

There are specific key activities to integrate as part of the program's older adult falls prevention strategy. Although these key activities are often utilized to assist with the program development and implementation of falls prevention programs, their usage may depend on the program model, community and clinical partners' preferences, and resources available.

Key Activities

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

Key Activity 1: Establish a Referral-Based System

A key aspect of a clinical older adult fall prevention program is to create a centralized process for patients to be referred to specific clinical and/or community-based resources. In consideration of a referral-based system that is best-suited for your community, it is important for your LHD to converse with program partners to determine the most appropriate referral-based system. Partners may include emergency medical services (EMS) or community paramedicine programs, primary care providers (PCPs), community pharmacies, hospitals, and community-based organizations who focus on older adult health. Together, this coalition of interested parties may consider which one or more of the following referral-based systems are appropriate for their clinical older adult fall prevention program:[24]

- **Option A: Provider Referral**
  This referral is made exclusively 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 that providers have identified.

- **Option B: Internal Registry**
  This referral is made through a registry of patients who have received medical care, such as fall-related 911 calls, ED visits, or hospitalizations. Older adults who received medical care for a fall would be referred to receive fall risk assessments to identify what factors are increasing their fall risk and interventions to address specific risk factors.

- **Option C: Self-Referral**
  This referral is made by a patient who is concerned about their own 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 fall risk factors.

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

After establishing a referral-based system for older adults who are at risk for falls, LHDs must consider existing practices in community and clinical settings of identifying older adults who are at high risk for falls. Essentially, there are practices that can take place in each setting to identify these individuals, including:

- **PCP Routine Screenings**
  PCPs can conduct fall risk screenings during routine clinical visits with older patients (i.e., Medicare wellness visits).

- **Community Events or Health Fairs**
  There are opportunities for LHDs to provide options to older adults at community events and health fairs so they can assess their own fall risk. It is especially important to create multiple strategies to assess fall risk in older adults since there can be barriers to health care access, especially for those residing in rural areas.[25] These events offer valuable opportunities to screen older adults for their fall risk. LHD staff and community partners may hold community events where older people or their caregivers are given paper-based, evidence-based fall risk screeners such as CDC's Stay Independent Screener or the National Council on Aging's online, interactive Falls Free Checkup.

- **Fall-Related 911 Calls**
  First responders (e.g., EMS, fire department) may identify older adults at risk for falls through calls when a lift assist (defined as an event where a patient is lifted to a more mobile position) is performed.

Key Activity 3: Assess Fall Risk Factors and Recommend Interventions

Assessments may include strength, gait, and balance assessments; medication reviews; and home hazard assessments. Certain fall risk assessments should be conducted by a health provider with clinical training, such as a physician, nurse, physical therapist, paramedic, or occupational therapist.[22] Other assessments can be conducted by community health workers, medical aides, and miscellaneous people who have been trained (i.e., strength, gait, and balance assessments). Once modifiable fall risk factors have been identified, evidence based clinical and community interventions can be recommended. These may include home modifications, community-based programs such as Tai Chi, or referrals to older adults' primary care providers, physical therapy, or occupational therapy.

Care Coordination

Coordinating care with multi-sectorial partners is also an important part of the key activities for fall prevention strategies. There are many modalities and partners necessary for a successful clinical older adult fall prevention program.

Key Activity 4: Care Coordination and Follow-Up

This final key activity includes the development of a care coordination plan to ensure that participants are receiving appropriate referrals in a timely manner and that there is follow-through on behalf of the patient's care team.[26] Part of the care coordination key activity is creating a care plan for the patient that is easily accessible for all team members (healthcare team, community health workers, patient, family, etc.) so that they can successfully implement each element of the care plan.[26] Similarly, members of the medical care team should meet regularly to discuss patient progress, identify challenges with the program, and strategize ways to overcome obstacles.[26] Open communication and coordinated care plans can help ensure the effectiveness of the fall prevention strategies.

Evaluate Local Health Departments/Community Paramedicine Older Adult Fall Prevention

From 2019-2023, the National Association of County and City Health Officials (NACCHO) began work on the project Developing the Capacity to Support Older Adult Falls to develop and expand programs to prevent older adult falls at the community level. This project, in collaboration with the National Association of State EMS Officials (NASEMSO) and with support from the CDC, aimed to help LHDs strengthen their capacity to reduce the risk of falls and prevent their recurrence among community-dwelling older adults. This resulted in the development of a subsequent guide, Developing the Capacity to Support Clinical Older Adult Fall Prevention: A Guide for Local Health Departments, walking local health departments through the creation of community-clinical linkages to ensure community-dwelling older adults at high risk for falls are identified, referred to appropriate resources to address their modifiable fall risk factors, and receive care coordination and follow-up.

Beginning in October 2023, NACCHO provided an opportunity for three existing clinical older adult fall prevention programs to receive evaluation technical assistance through a hired consultant (Health Communications Consultants, Inc.) to create process and outcomes-based evaluation plans. The following three case studies showcase diverse approaches to the clinical older adult fall prevention program model in three settings (local health department, fire department, and health council).

References

1. Kakara, R., Bergen, G., Burns, E., & Stevens, M. (2023). Nonfatal and fatal falls among adults aged > 65 years – United States, 2020-2021. Morbidity and Mortality Weekly Report, 72(35), 938-943. https://doi.org/10.15585/mmwr.mm7235a1

2. Moreland, B., Kakara, R., & Henry, A. (2020). Trends in nonfatal falls and fall-related injuries among adults aged >65 years – United States, 2012-2018. Morbidity and Mortality Weekly Report, 69(27), 875-881. https://doi.org/10.15585/mmwr.mm6927a5

3. United States Census Bureau. (2023). 2023 national population projections: Main series. Retrieved on May 21, 2024, from: https://www.census.gov/data/tables/2023/demo/popproj/2023-summary-tables.html

4. Mather, M., & Scommegna, P. (2024, January 9). Fact sheet: Aging in the United States. Population Reference Bureau. Retrieved on May 21, 2024, from: https://www.prb.org/resources/fact-sheet-aging-in-the-united-states/

5. World Health Organization. (2021, April 26). Falls. Retrieved on May 21, 2024, from: https://www.who.int/news-room/fact-sheets/detail/falls

6. Centers for Disease Control and Prevention. (2024, January 17). About older adult fall prevention. Retrieved on June 6, 2024, from: https://www.cdc.gov/falls/about/index.html

7. Centers for Disease Control and Prevention (n.d.). CDC Web-based injury statistics query and reporting system. Retrieved on May 15, 2024, from: https://wisqars.cdc.gov/

8. Haddad, Y. K., Miller, G. F., Kakara, R., Florence, C., Bergen, G., Burns, E. R., & Atherly, A. (2024). Healthcare spending for non-fatal falls among older adults. Injury Prevention, 30(4), 272-276. https://doi.org/10.1136/ip-2023-045023.

9. Agency for Healthcare Research and Quality. (n.d.). AHRQ data tools. Retrieved on May 15, 2024, from: https://datatools.ahrq.gov/

10. Thompson, H. J., McCormick, W. C., & Kagan, S. H. (2006). Traumatic brain injury in older adults: Epidemiology, outcomes, and future implications. Journal of American Geriatric Society, 54(10), 1590-1595. https://doi.org/10.1111/j.1532-5415.2006.00894.x

11. MacKay, S., Ebert, P., Harbridge, C., & Hogan, D. B. (2021). Fear of falling in older adults: A scoping review of recent literature. Canadian Geriatrics Journal, 24(4). 379-394. https://doi.org/10.5770/cgj.24.521

12. Centers for Disease Control and Prevention. (2024, April 22). STEADI – older adult fall prevention. Retrieved on May 15, 2024, from: https://www.cdc.gov/steadi/about/index.html

13. Stevens, J. A. (2005). Falls among older adults – risk factors and prevention strategies. Journal of Safety Research, 36(4), 409-411. https://doi.org/10.1016/j.jsr.2005.08.001

14. Ambrose, A. F., Paul, G., & Hausdorff, J. M. (2013). Risk factors for falls among older adults: A review of the literature. Maturitas, 75(1), 51-61. https://doi.org/10.1016.j.maturitas.2013.02.009

15. Mayo Clinic. (2020). Orthostatic hypotension (postural hypotension). Retrieved on June 6, 2024, from: https://www.mayoclinic.org/diseases-conditions/orthostatic-hypotension/symptoms-causes/syc-20352548#:~:text=Overview,even%20cause%20you%20to%20faint

16. Renfro, M., Maring, J., Bainbridge, D., & Blair, M. (2016). Fall risk among older adult high-risk population: A review of current screening and assessment tools. Physical Therapy and Rehabilitation, 5, 160-171.

17. Stevens, J., & Burns, E. (2015). A CDC compendium of fall interventions: What works for community-dwelling older adults. Centers for Disease Control and Prevention. https://www.cdc.gov/falls/pdf/CDC_Falls_Compendium-2015-a.pdf

18. Jones, T., Ghosh, T., Horn, K., Smith, J., & Vogt, R. (2011). Primary care physicians' perceptions and practices regarding fall

prevention in adult's 65 years and over. Accident; Analysis and Prevention, 43(5), 1605-1609. https://doi.org/10.1016/j.aap.2011.03.013

19. Shubert, T., Smith, M., Prizer, L., & Ory, M. (2013). Complexities of fall prevention in clinical settings: A commentary. Gerontologist, 54(4), 550-558. https://doi.org/10.1093/geront/gnt079

20. Coe, L. J., St. John, J. A., Hariprasad, S., Shankar, K. N., MacCulloch, P. A., Bettano, A. L., & Zotter, J. (2017). An integrated approach to falls prevention: A model for linking clinical and community interventions through the Massachusetts Prevention and Wellness Trust Fund. Frontiers in Public Health, 5(38). https://doi.org/10.3389/fpubh.2017.00038

21. Vincenzo, J. L., & Patton, S. K. (2021). Older adults' experience with fall prevention recommendations derived from the STEADI. Health Promotion Practice, 22(2), 236-247. https://doi.org/10.1177/1524839919861967

22. Ramanadhan, S., Daly, J., Lee, R. M., Kruse, G. R., & Deutsch, C. (2020). Network-based delivery and sustainment of evidence-based prevention in community-clinical partnerships addressing health equity: A qualitative exploration. Frontiers in Public Health, 8. 213. https://doi.org/10.3389/fpubh.2020.00213

23. Palm, K., Taffe, R., Snyder, C., Mohammed, Z., & Rudd, J. (2023). Developing the capacity to support clinical older adult fall prevention: A guide for local health departments. https://naccho.org/uploads/downloadable-resources/Guide_Full_v5.pdf

24. National Council on Aging. (2021, May 13). How to build referral systems for community-integrated health networks. National Council on Aging.

25. Goins, R. T., Williams, K. A., Carter, M. W., Spencer, M., & Solovieva, T. (2005). Perceived barriers to health care access among rural older adults: A qualitative study. Journal of Rural Health, 21(3), 206-213. https://www.doi.org/10.1111/j.1748-0361.2005.tb00084.x.

26. Eckstrom, E., & Parker, E. M., Shakya, I., & Lee, R. (2021). Coordinated care plan to prevent older adult falls. National Center for Injury Prevention and Control, Centers for Disease Control and Prevention. https://www.cdc.gov/steadi/pdf/Steadi-Coordinated-Care-Plan.pdf

NACCHO
National Association of County & City Health Officials

Short Description

This case study highlights the strategic partnership and comprehensive evaluation approach taken by Columbia Gorge Health Council, local Primary Care Clinicians (PCPs), and Community Health Workers (CHWs) to manage and prevent falls in their community, initiate the program evaluation process, and demonstrate both the successes and challenges encountered in their program.

Background

The Columbia Gorge is a rural region of Oregon named for the Columbia River that runs through the area. The Columbia Gorge Health Council (CGHC), situated in the Columbia Gorge Region of Oregon, consists of local leaders in health care along with county and community members, providers, and agencies to serve the needs of the poor and vulnerable. The CGHC has a commitment to working with partners in Hood River and Wasco counties to improve the health of the Columbia Gorge region overall, by bringing forth solutions that are driven by the community.

Hood River County, OR

Population: 23,977

Age: Persons 65 and older: 17.1%

Race Ethnicity

- White alone, not Hispanic or Latino: 62.3%

- Black or African American alone: 0.22%

- Hispanic or Latino: 29.8%

- Asian alone: 1.63%

- American Indian and Alaska Native alone: 1.14%

Persons without health insurance: 6%

One major public health issue facing Oregon and the Columbia Gorge Region is older adult falls. Each year, 1 in 3 older adults fall which makes falls the leading cause of non-fatal and fatal injury for adults 65 or older in Oregon. From 2013- 2022, the counties in Columbia Gorge Region saw a significant increase in mortality among older adults due to preventable falls.[4,5] Specifically, older adult falls present a major public health issue in Hood River, Wasco, Wheeler, and Clatsop counties with older adult falls resulting in 18,534 ED visits per 100K and 225 deaths per 100K among residents ages 55 and older in these counties from 2020-2022.[1]

Hospitalizations for fall-related injuries among older adults (55 and older) in Oregon during 2022 resulted in $370 million worth of charges with a median charge of $48,303 per patient.[1] Additionally, in 2022, ED visits for falls- related injuries among Oregon older adults (55 and older) resulted in $371 million in incurred charges with a median charge of $4,316. [1] Even with insurance, these incurred medical expenses can represent a significant economic burden for tax-payers in Oregon. In addition to the economic cost of falls-related injuries, older adults who experience a fall may experience long-term effects such as disability, loss of independence, and decreased quality of life.[1]

Connected Care for Older Adults Program and Falls Prevention

Connected Care for Older Adults is an innovative program that uses Community Health Workers (CHWs) working in partnership with Primary Care Clinicians to improve care for older adults at risk for falls aged 55 and older) in rural areas. Through Connected Care, specially-trained CHWs conduct a series of home visits with patients and families. They implement the Connected Care Protocols based on Age-Friendly Health Systems 4Ms (What Matters, Medication, Mobility, and Mentation). CHWs provide information and education to patients and families, connect them with existing community services, and refer them for further assessment as needed. The Connected Care model seeks to improve the quality of care delivered to participating older adult patients; improve the patient, caregiver, and provider experience with care; support patients to continue living independently, and decrease high cost utilization among participating patients.

Connected Care was developed by an interdisciplinary team of physicians, Community Health Workers, mental health liaisons, advocates, and program administrators to address a lack of support for older adults at risk for falls who were living independently in rural Oregon. With support from the regional Health Council's Clinical Advisory Panel, the team identified an opportunity to apply the Institute for Healthcare Improvement's Age-Friendly Framework to a Community Health Worker role and scope of practice. The team worked collaboratively to create five Connected Care protocols for CHWs based on the 4Ms. The protocols include a What Matters Conversation, reviewing Medications in the home for safety and accuracy, prescreening for Mental conditions (mood disorders and cognitive decline), completion of the Mobility protocols (footwear assessment and STEADI Stay Independent fall risk assessment, etc.), and completion of the Advance Directive services, and relay important information about a patient's well being and priorities back to the Primary Care Provider (PCP).

Wasco County, OR

Population: 26,670

Age: Persons 65 and older: 20.7%

Race Ethnicity

- White alone, not Hispanic or Latino: 70.1%
- Black or African American alone: 0.49%
- Hispanic or Latino: 18.8%
- Asian alone: 0.9%
- American Indian and Alaska Native alone: 4.19%

Persons without health insurance: 8.7%
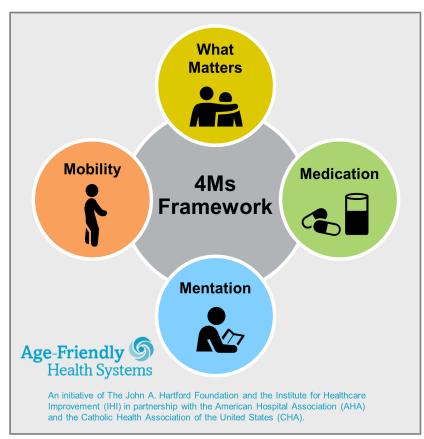
Wheeler County, OR

Population: 1,451

Age: Persons 65 and older: 35.3%

Race Ethnicity

- White alone, not Hispanic or Latino: 87.5%
- Black or African American alone: 0.6%
- Hispanic or Latino: 5.79%
- Asian alone: 0.6%
- American Indian and Alaska Native alone: 1.79%

Persons without health insurance: 3.5%

What Matters
Know and align care with each older adult's specific health outcome goals and care preferences including, but not limited to, end-of-life care, and across settings of care.

Medication
If medication is necessary, use Age-Friendly medication that does not interfere with What Matters to the older adult, Mobility, or Mentation across settings of care.

Mentation
Prevent, identify, treat, and manage dementia, depression, and delirium across settings of care.

Mobility
Ensure that older adults move safely every day in order to maintain function and do What Matters.

In the Mobility protocol, CHWs conduct the CDC's STEADI (Stopping Elderly Accidents, Death & Injuries) assessment, complete a footwear review, assess in-home fall risks using the CDC's Home Safety Checklist, and create an exercise plan for the patient. After completing the assessments, the CHWs chart directly in the EMR and route important information or actions needed back to the patient's Primary Care Provider and the health care team. Additionally, the CHWs provide information and education to the patients and families, connect them with existing community services and refer them for further assessment. Patients "graduate" from the program when all of the relevant protocols are completed.

In October 2022, Columbia Gorge Health Council began piloting the Connected Care for Older Adults program at One Community Health in Hood River. Since then, they have expanded the program at seven rural clinics in Hood River, Wasco, Wheeler, and Clatsop counties.

Clastop County, OR

Population: 41,072

Age: Persons 65 and older: 23.6%

Race Ethnicity
- White alone, not Hispanic or Latino: 84%
- Black or African American alone: 0.55%
- Hispanic or Latino: 9.37%
- Asian alone: 1.37%
- American Indian and Alaska Native alone: 1.04%

Persons without health insurance: 8.4%

Evaluation Plan

The National Association of County and City Health Officials (NACCHO) provided an opportunity for three existing clinical older adult fall prevention programs to receive technical assistance from an evaluation consultant (Health Communications Consultants, Inc.) and EMS consultant (National Association of State EMS Officials). Through this technical assistance, the clinical older adult falls prevention programs were able to create evaluation questions and an evaluation plan to help guide the evaluation of their program.

For this evaluation project, CGHC wanted to understand the cost effectiveness of the Connected Care for Older Adults Program in providing high quality care. Based on this information, the desired outcome was to implement the program in additional locations to make the program more accessible to residents of Hood River County. The time and data collection limitations for the project significantly influenced the evaluation goals.

The goals of this evaluation were two-fold:

1. Implement a process evaluation on the Connected Care Program-Fall Prevention.

2. Implement an outcomes evaluation on the Connected Care Program-Fall Prevention.

Process Evaluation and Outcomes Evaluation

For an older adult fall prevention program, the scope and depth depend on the priorities of the program as well as those of its working partners and community collaborators. Key factors influencing the evaluation include available resources such as financial backing, the availability of staff and contractors, and the time committed to the evaluation process. Establishing the focus of the evaluation starts with identifying the primary purposes and the main intended users of the evaluation, ensuring that the evaluation aligns with the specific goals and needs of the program and its collaborators.

In collaboration with Health Communications Consultants, an action plan was developed to inform Columbia Gorge Health Council's Connected Care Program's Fall Prevention process and outcome evaluation. The process evaluation was identified as a step to improve care for older adults at risk for falls in the counties they serve.

The action plan for both the process evaluation and outcome evaluation was as follows:

Goal 1: Implement a Process Evaluation on the Connected Cares Program-Fall Prevention.

Objective #1: Implement a process evaluation plan by July 1, 2024, for the Connected Cares Program-Fall Prevention.

- Strategy 1: Identify and document resources, products, protocols, collaborations, and evaluation team.

- Strategy 2: Implement a training accountability and accomplishment process for CHW's and their supervisors.

- Strategy 3: Evaluate patient engagement and protocol delivery services.

- Strategy 4: Evaluate data quality metrics for data systems.

Goal 2: Implement an outcomes evaluation on the Connected Care Program-Fall Prevention.

Objective 1: Implement an outcomes evaluation plan by July 1, 2024, for the Connected Cares Program-Fall Prevention.

- Strategy 1: Implement patient engagement (e.g. participation in program, service refusal) and protocol delivery services to diverse populations.

- Strategy 2: Assess Social Determinants of Health & Equity (SDOH-E) needs throughout program engagement.

- Strategy 3: Assess patient funding usage.

- Strategy 4: Assess patient satisfaction with the program.

Evaluation Findings

The following results were pulled from the evaluation analysis and interpretation completed by Health Communications Consultants.

Goal 1

What is the frequency of protocols being started and completed?

The dataset for this question included the Connected Care referral dates between August 3, 2022, and May 8, 2024, and the start dates between August 3, 2022, and May 15, 2024. In the dataset provided, 140 patients were referred with a completed Patient Intake Form of which 131 (95.4%) patients enrolled. Of those enrolled, 90 patients had some fields of the Patient Graduation Form completed. Of the 49 patients who completed the program, 44 (89.8%) had the What Matters-Conversation Protocol completed. This was followed by Mobility (n=43, 87.8%), Mentation (n=42, 85.7%), What Matters-Advance Directive (n=33, 67.3%), and Medication (n=27, 55.1%).

For the Mobility Protocol (including footwear assessments, exercise plans, and in-home fall risk assessment, STEADI Stay Independent fall risk assessment, etc) 88 patients (67.2% of the enrollees) were recommended to receive the protocol on intake. Of those recommended on intake, 56 patients (63.6%) had a Patient Graduation Form, and 34 (60.7%) completed the program. Of those who completed the program, 97.1% (n=33) had a documented completed Mobility Protocol.

Does the service type have a correlation with program completion?

To answer this evaluation question, the service types from those patients that completed the program (graduated, n=49) were compared with patients who ended the program earlier (n=15) with the reasons of lack of patient engagement (n=8) or patient requested to end program (n=7).

Data analyses demonstrated that those patients who completed the program had over twice as many home visits (mean 4.8) as those who lacked engagement (mean 2.2) or requested to end the program (mean 1.6). When graduating patients were compared to patients requesting to end program, there was also a significant decrease in the number of office visits for participating patients, phone calls/other encounters, and community resource/case management. The data indicates that the face-to-face encounters, especially in the patient's home, may have a correlation with completion of the program when compared to those who left the program due to lack of patient engagement or patients who requested to end the program.

Successes

Success 1: Developed direct and indirect resources for program implementation and evaluation

Success 2: Large sample size

Challenges

Challenge 1: Limited responses and missing values to the assessments or surveys did not allow for a full analysis of some of the evaluation questions.

Challenge 2: Lack of consistency with data collection and data entry.

Goal 2

Is the program reaching the population of focus?

The Patient Intake Form is the data source for this evaluation question. There were 140 patients referred to the program with a completed Patient Intake Form of which 131 (95.4%) were enrolled in the program. The age of enrolled clients ranged from 51 to 99 years. The median age of enrolled participants was 78 years; the average was 76.4 years.

What is the reason for patient referral?

There were 140 qualitative responses for the "Primary concern/reason for referral" data column on the Patient Intake Form (see Question 19). The qualitative responses were then coded into 9 categories for analysis. **Table 1** below shows the coding for each category as well as the frequency of the codes.

Table 1. Reason for patient referral among patients referred (n=140)

Category	Coding for Categories	Frequency
Fall Risk	Fall Risk, Recurring Fall, Falling	22
Advance Directive	Advance Directive	23
Medication	Medication, Remembering Medication, Medication Compliance, Medication Protocol	14
Mobility	Mobility	13
Mentation	Memory, Memory Loss, Mentation, Altered Mental Status, Cognition, Dementia, Declining Mental Status, Forgetful	30
Safety	Safety, Home Safety, Safety Home Evaluation,	7
Depression/Grief/Isolation/ Anxiety	Depression, Grief, Isolation, Anxiety	22
Resource Needs	Connected Care, Needs Assistance, Community Resources, No Insurance, Benefits, Meals, Housing, Transportation, Home Caregiver, Financial, Specialty Services, Support	40
Health Needs	Additional Health Problems, Chronic Diseases (e.g., Diabetes, Blood Pressure, Heart Failure), Injury, Surgery, Medical Issues	27

When reasons are further thematized, fall risk [22], mobility [13], and safety [7] could be grouped together under the Mobility Protocol umbrella, and become the most frequent reason for referral [42] above any other category/theme.

Which additional services (addressing SDOH-E) are most accessed by patients through this program?

Data analysis indicated that the most common resources, supports secured, and/or referrals made were safety (25.6%), dental (25.6%), transportation (22.2%), social isolation (21.1%), vision (21.1%), and behavioral health (21.1%).

Resources or supports secured and/or referrals made	# of patients	% of patients
Assistance with Activities of Daily Life	13	14.4%
Behavioral Health	19	21.1%
Dental	23	25.6%
Financial Aid	5	5.6%
Food Assistance/Diet	15	16.7%
Hearing	5	5.6%
Home Repair	5	5.6%
Housing	7	7.8%
Insurance	1	1.1%
Medication	0	0.0%
Safety	23	25.6%
Social Isolation	19	21.1%
Transporation	20	22.2%
Vision	19	21.1%
Other	25	27.8%
None	24	26.7%
Total	**90**	**100%**

In conclusion, the Columbia Gorge Health Council's Connected Care for Older Adults program exemplifies a proactive and community-driven approach to addressing the critical issue of falls among older adults in the rural Columbia Gorge region. By leveraging the collaborative efforts of PCPs and CHWs, the program not only implements essential fall prevention protocols but also fosters a holistic understanding of each patient's needs. The evaluation findings indicate a strong correlation between the frequency of home visits and program completion, highlighting the importance of personalized engagement in enhancing health outcomes. This case study serves as a valuable model for other communities facing similar public health challenges, emphasizing the importance of collaboration, targeted interventions, and continuous evaluation in fostering healthier aging populations.

References

1. Columbia Gorge Health Council. "About." Accessed May 22, 2024. https://www.cghealthcouncil.org/about.

2. "Ensuring a Safe and Healthy ' Autumn of One's Years': Fall-Related Injuries, Deaths and Prevention." Health Oregon, November 2023.

3. "Fall-Related Mortality Rate among Persons 65 Years of Age and Older by County, Oregon, 2013–2017." Oregon Health Authority, August 2019.

4. "Oregon Health Authority : Helping Older Adults Reduce Their Risk of Falling : Falls Prevention for Older Adults : State of Oregon." Accessed May 22, 2024. https://www.oregon.gov/oha/PH/PREVENTIONWELLNESS/SAFELIVING/FALLPREVENTION/Pages/index.aspx.

Short Description

This case study highlights the comprehensive evaluation approach taken by the City of Crawfordsville's Mobile Integrated Health (MIH) program to manage and prevent falls in their community, initiate the program evaluation planning, and demonstrate both the successes and challenges encountered in their program.

Background

Crawfordsville, Indiana is the largest city within Montgomery County, which is located in west-central Indiana. The City of Crawfordsville is dedicated to understanding the evolving health issues within the Crawfordsville community and developing new approaches that best fit the needs of the community.[1]

Older adult falls are a growing public health issue in Indiana. Between 2018 and 2020, the percentage of older adults who fell rose from 24.8% to 30.8% in Indiana[2]. In fact, falls are the leading cause of death for older adults residing in Indiana[3]. The escalating rates of older adult falls called for a coordinated effort at the local level to assess and mitigate fall risk factors in older adults residing in the state.

Mobile Integrated Health Program (MIH)

The Crawfordsville Fire Department (CFD) provides Fire Protection and Emergency Medical Services to Montgomery County Indiana since January 2023. In addition, the department provides mutual aid assistance and advanced life support intercept services to surrounding departments and communities in west-central Indiana. Emergency Medical Services (EMS) was incorporated in CFD in the mid-1900's. In January 2017, the Mobile Integrated Health (MIH) Community Paramedicine Program was launched. The MIH program is a nationally recognized program that houses the Chronic Disease Management Program. The Chronic Disease Management Program conducts the following assessments:

Crawfordsville, IN

Population: 16,577

Age: Persons 65 and older: 17.9%

Race Ethnicity

- White alone, not Hispanic or Latino: 89.1%
- Black or African American alone: 1.5%
- Hispanic or Latino: 8.3%
- Asian alone: 0.5%
- Language other than English spoken at home: 8.3%

Persons without health insurance: 12.7%

– Personal Health Questionnaire-9: To understand the patient's mental health.

– Dartmouth Cooperative Functional Assessement Charts (COOP): To understand the patient's quality of life.

– Social Determinants of Health: To understand social and environmental factors that impact the patient's health.

– Stopping Elderly Accidents, Deaths & Injuries (STEADI) Stay Independent Screener: To understand the patient's fall risk.

– Home Safety Assessment: To understand the patient's extrinsic risk factors within their home.

The program is a 90-day management program. The data collected from the assessments and weekly visits are stored in the hospital (Franciscan Health) Epic electronic medical record (EMR) system. The site would like to establish a method to evaluate their falls prevention program as part of the Chronic Disease Management Program.

The MIH program has numerous referral sources, including primary care providers, accountable care organization nurses at Franciscan Health, Emergency Medical Service (EMS) providers responding to fall-related 911 calls, and emergency room providers. Once identified, patients are referred to the MIH Chronic Disease Management Program and the MIH social worker initiates contact with the patient. The MIH social worker conducts a home visit to assess the participant's needs, and the results of these assessments guide the development of personalized intervention plans with behavioral and/or environmental modifications. The MIH program collaborates with community organizations, area agencies on aging, and patients' health insurance providers to secure funding for recommended resources (e.g., grab bars, walkers, canes, caregiving services) with the goal of addressing identified needs and mitigating fall risk factors in the home environment.

Following the resource allocation, the MIH social worker initiates contact with the patient's care team to discuss prescribed medications that are associated with higher incidence of falls, coordinate comprehensive care, or other medical concerns. The patient's care team then meets with the MIH social worker on a bi-weekly basis to assess the patient's progress and readiness for program completion within the designated 90-day timeframe.

The MIH social worker conducts final evaluations for patients completing the program and ensures access to ongoing support resources. After completing the program, patients can opt for continual support from the care team as needed. Patients who require ongoing assistance past the 90-day timeframe may adjust the frequency of visits based on their individual needs.

Evaluation Planning

The National Association of County and City Health Officials (NACCHO) provided an opportunity for three existing clinical older adult fall prevention programs to receive technical assistance from an evaluation consultant (Health Communications Consultants, Inc.) and EMS consultant (National Association of State EMS Officials). Through this technical assistance, the clinical older adult falls prevention programs were able to create evaluation questions and an evaluation plan to help guide the evaluation of their program.

The goals of the evaluation planning for the MIH program were two-fold:

1. Implement an updated formative evaluation on the procedures of the program.

2. Establish a method for future process and outcomes evaluations.

Process Evaluation and Outcomes Evaluation

In collaboration with Health Communications Consultants, an action plan was developed to inform MIH's process and outcome evaluation. The process evaluation was identified as a step to improve care for older adults at risk for falls in the counties they serve.

The action plan for both the process evaluation and outcome evaluation was as follows:

Goal 1: Implement a Formative Evaluation on the Procedures of the Program

Objective #1: Create fall prevention plan by July 1, 2024 for MIH program.
- Strategy 1: Create identified resource needs, collaborations, and evaluation team.
- Strategy 2: Create record system.
- Strategy 3: Create workflows.

Objective #2: Implement fall prevention plan by July 1, 2024, for MIH program.
- Strategy 1: Implement updated fall prevention plan.

Goal 2: Establish a Method for Future Process and Outcomes Evaluations

Objective #1: Implement methods for data collection for process and outcomes evaluations by March 1, 2024 for MIH program.
- Strategy 1: Implement method for collecting descriptive data.
- Strategy 2: Implement method for collecting assessment data.
- Strategy 3: Implement method for collecting administrative data.

Objective #2: Evaluate data collection tool(s) for quality of data for process and outcome evaluations by July 1, 2024 for MIH program
- Strategy 1: Evaluate tool on data entry, data quality, data completeness, and timeliness.

Objective #3: Evaluate staff for quality of data for process and outcome evaluations by July 1, 2024 for MIH program.
- Strategy 1: Evaluate staff on data entry, data quality, data completeness, and timeliness.

Evaluation Findings

The evaluation team for this project include the CFD's Director of Operation MIH, CFD' Social Worker for Elderly Chronic Disease Management Program, Franciscan Health Nurse Manager, consultants from HCC, Inc., NACCHO, and subject-matter experts from the National Association of State EMS Officials (NASEMSO). There were eight data collection tools created to evaluate the program, including the following:

– Contact Form,

– Customer Service Survey,

– Patient Health Questionnaire-9 (PHQ-9),

– Stopping Elderly Accidents, Deaths, and Injuries (STEADI) Stay Independent Screener,

– Darthmouth COOP,

– Home Safety Checklist,

– Social Determinants of Health, and

– Closure Form

Additional data collection includes time logs for assessment of the time required to review medic reports and for data extraction from EPIC. The analysis utilized quantitative and qualitative techniques. The evaluation period was January 2024 through May 2024. The following:

Part 1: How many fall/lift assists occur in a day?

Table 1. Medic reports reviewed per day and number that are actual falls/lift assists (n = 8)

Medic Report Review Time Log	Median	Mean (Average)	Minimum	Maximum
Number of reports reviewed per day	4.5	4.4	1	9
Number of reports that are actual falls/lift assists per day	1.5	2	1	6

Between April 25, 2024 and May 8, 2024, 8 instances of tracking medic reports were completed. A total of 35 reports were reviewed, with 16 found to be falls or lift assists. There was an average of 4.4 reports reviewed for fall/lift assists each day.

Part 2: Are referral criteria well operationalized and understood by those who will refer?

Table 2. Referrals and participation stratified by referral partner (n = 27)

Referral Partner	# of Referrals	% of Referrals	# of Participants	% of Participants	Participation Rate
ACO	4	14.8%	4	28.6%	100%
EMS	14	51.9%	1	7.1%	7.1%
HHC	2	7.4%	2	14.3%	100%
Home Health	1	3.7%	1	7.1%	100%
Hospital	2	7.4%	2	14.3%	100%
PCP	2	7.4%	2	14.3%	100%
Self	2	7.4%	2	14.3%	100%
Total	**27**	**100%**	**14**	**100%**	**51.9%**

There were 27 referrals within the established evaluation timeframe. EMS accounted for 51.9% of the patient referrals that were received. The diversity of referral partners indicates the process is understood by those that referred patients to the program. More than half (51.9%) of referrals were from EMS, which is part of Crawfordsville Fire Department. In the evaluation notes, program staff shared that participating in this evaluation project allowed them the opportunity to market the program and reintroduce program components to those that could potentially refer.

Part 3: What is the rate of repeat patients in the program

Table 3. Repeat Patients (n = 27)

Is this a repeat patient?	# of participants	% of participants
Yes	2	7.4%
No	25	92.6%
Total	**27**	**100%**

The measurements for this evaluation question included the number of patients referred back into the program <, =, and > 90 days. On the Contact Form, 2 referrals (7.4%) were identified as repeat patients. While the dataset does not show the repeat (not within a 90-day window), the question that asks about repeat falls was indicated as a "Yes."

Conclusion

In conclusion, the Mobile Integrated Health (MIH) program in Crawfordsville, Indiana, addresses the critical issue of older adult falls through a comprehensive approach that includes assessments, personalized interventions, and ongoing support for older adult patients. Established in collaboration with various healthcare partners, the program utilizes a structured 90-day management plan to mitigate fall risks, supported by robust data collection and evaluation frameworks. This program evaluation has shown promising results, with effective referral processes and high participation rates from diverse healthcare partners. Moving forward, the MIH program continues to refine its procedures and data collection methods to ensure sustained improvement in addressing the complex health needs of older adults in the community.

References

1. City of Crawfordsville. (n.d.) Community healthcare & innovation. Retrieved on June 5, 2024, from: Community Healthcare & Innovation | Crawfordsville, IN

2. Centers for Disease Control and Prevention. (n.d.) Older adult falls data. National Center for Health Statistics. Retrieved on June 5, 2024 from: Older Adult Falls Data | Older Adult Fall Prevention | CDC

3. Centers for Disease Control and Prevention. (n.d.). Web-based injury statistics query and reporting system. United States Department of Health & Human Services.

Short Description

This case study highlights the strategic partnership and comprehensive evaluation approach taken by Florida Department of Health in Seminole County and local emergency medical services (EMS) to manage and prevent falls in their community, initiate the program evaluation process, and demonstrate both the successes and challenges encountered in their program.

Background

The State of Florida utilizes a shared public health governance model to deliver essential public health services. Under this model, leadership is centralized under the state's surgeon general in Tallahassee, while state employees within local health departments are tasked with implementing core public health services mandated by Florida statute.

The Florida Department of Health in Seminole County (DOH-Seminole) is situated in Sanford, Florida, which is a community in Central Florida. DOH-Seminole is dedicated to protecting, promoting, and improving the health of all Floridians through integrated efforts at the state, county, and community levels. Seminole County consistently performs above the state and national average Health Outcomes and Health Factors rankings.[2]

One predominant public health issue that Seminole County continuously faces is older adult falls. Falls were the leading cause of unintentional injury in Florida and Seminole County in recent years, with 2018-2020 rates of 12.2 per 100,000 and 19.6 per 100,000, respectively[4]. Older adult falls are the leading cause of death for older adults residing in Florida[5]. With the rapidly growing older adult population, the importance of a sustained fall prevention program in Seminole County is evident.

Community Integrated Mobile Health Services (CIMHS)

Since December 2019, DOH-Seminole has provided Community Integrated Mobile Health Services (CIMHS), which includes the Mobile Health Unit Outreach, Asthma Home Visit Program, and Cardiovascular Disease Prevention and Management Program. CIMHS aims to enhance access to care through community outreach, home visits, and post-discharge follow-up services. During home visits, DOH-Seminole identified a significant number of older adults reporting falls. In response, the department launched the CDC's STEADI (Stopping Elderly Accidents, Deaths & Injuries) program in May 2022 to reduce non-fatal falls among adults ages 55 years and older in Seminole County. Additionally, DOH-Seminole collaborated with the Seminole County Fire Department (SCFD) Emergency Medical Services (EMS) Operations aiming to secure funding for a joint fall prevention project. The SCFD EMS handles approximately 28,000 EMS incidents annually. However, due to local EMS capacity constraints, EMS developed its own fall prevention program and DOH-Seminole supported by providing referrals. Due to the high demand of receiving over 200 falls-related clients each month, EMS was unable to manage all home visits for these clients. This evolved into a collaboration between DOH-Seminole and EMS providing services for a specialized fall prevention program by EMS to manage falls within the county.

Seminole County, FL

Population: 470,856

Age: Persons 65 and older: 12.9%

Race Ethnicity

- White alone, not Hispanic or Latino: 38.5%
- Black or African American alone: 27.3%
- Hispanic or Latino: 26.3%
- Asian alone: 4.2%
- American Indian and Alaska Native alone: 0.2%

Language other than English spoke at home: 24.4%

Persons without health insurance: 15.8%

Program participants are identified via public outreach, emergency medical services, non-healthcare facilities, or by phone or virtual encounters. Initial encounters for all referral systems except the assisted living facilities (ALF) include collecting the participant's information and assessing eligibility and enrollment. Within 24-72 hours of the referral, a phone call encounter is made to assess further eligibility, provide education on the program components, and schedule the first home visit within 1-2 weeks of the initial encounter. With ALF's, an outreach presentation is scheduled in which the coordinator introduces the program to the residents, conducts a 30–40-minute PowerPoint presentation, and collects a sign-in sheet containing participant demographics. The home visit is done collectively as a group and individual follow-up visits are conducted based on identification of individual need.

During the first home visit, participants are educated on fall prevention. Screening questions (e.g., age, gender, race/ethnicity) are answered and the demographic, medical history, daily health assessment, pre-risk assessment review, and fall risk factors are completed in the data collection tool. At the second home visit, information from the first visit is reviewed and the Fall Prevention Activity is administered along with the Pre-Post Knowledge Assessment to understand the learning gain from the program element. Additionally, the environmental assessment using the Home Hazards Checklist or Home Hazard section of the data tools are used. The Post Risk Factor Assessment Review including the assessment and intervention is also completed at this visit.

The Falls Prevention Program is a free service offered by DOH-Seminole to reduce the incidence of older adult falls to improve quality of life. The program has the following eligibility criteria:

1. Individuals must be over the age of 55 years; and

2. Must be Seminole County residents; and

3. Must score 4 points or more on the fall risk screening questions (Risk assessment questions are contained in Figure 1 below); and/or

4. Be referred from a fall prevention community partner (e.g., EMS, ALF, Healthcare Facility) or stakeholder; and/or

5. Be referred at the discretion of the Fall Prevention Coordinator.

There are specific key activities to integrate as part of the program's older adult falls prevention strategy. Although these key activities are often utilized to assist with the program development and implementation of falls prevention programs, their usage may depend on the program model, community and clinical partners' preferences, and resources available.

Evaluation Planning

The National Association of County and City Health Officials (NACCHO) provided an opportunity for three existing clinical older adult fall prevention programs to receive technical assistance from an evaluation consultant (Health Communications Consultants, Inc.) and EMS consultant (National Association of State EMS Officials). Through this technical assistance, the clinical older adult falls prevention programs were able to create evaluation questions and an evaluation plan to help guide the evaluation of their program.

The goals of this evaluation were two-fold:

1. Implement an updated formative evaluation on the procedures of the program

2. Implement the process and outcome evaluations.

Process Evaluation and Outcomes Evaluation

For an older adult fall prevention program, the scope and depth depend on the priorities of the program as well as those of its working partners and community collaborators. Key factors influencing the evaluation include available resources such as financial backing, the availability of staff and contractors, and the time committed to the evaluation process. Establishing the focus of the evaluation starts with identifying the primary purposes and the main intended users of the evaluation, ensuring that the evaluation aligns with the specific goals and needs of the program and its collaborators.

In collaboration with Health Communications Consultants, an action plan was developed to inform DOH-Seminole CIMHS's process and outcome evaluation. The process evaluation was identified as a step to improve care for older adults at risk for falls in the counties they serve.

The action plan for both the process evaluation and outcome evaluation was as follows::

Goal 1: Implement an Updated Formative Evaluation on the Procedures of the Program

Objective #1: Update Fall Prevention Plan by July 1, 2024 for DOH-Seminole

- Strategy 1: Update identified resource needs, collaborations, and evaluation team.

- Strategy 2: Update record system.

- Strategy 3: Update workflows.

- Strategy 4: Update communication strategy for marketing and community partner engagement.

Objective #2: Implement Updated Fall Prevention Plan by July 1, 2024 for DOH-Seminole

- Strategy 1: Implement updated fall prevention plan.

Goal 2: Implement the Process and Outcome Evaluations

Objective #1: Implement methods for data collection for process and outcome evaluations by March 1, 2024 for DOH-Seminole.

- Strategy 1: Implement method for collecting descriptive data.

- Strategy 2: Implement method for collecting assessment data.

- Strategy 3: Implement method for collecting administrative data.

Objective #2: Evaluate data collection tool(s) for quality of data for process and outcome evaluations by July 1, 2024 for DOH-Seminole

- Strategy 1: Evaluate tool on data entry, data quality, data completeness, and timeliness.

Successes

- **Positive Feedback from Participants:** Once enrolled in the program clients are very appreciative and receptive of the advice given to help reduce falls in their home. Most of them are unaware of the potential hazards in their home/life. They are really impressed that there is a fall prevention program out there for support.

- **Community Engagement and Support:** The program helps people feel like they are not doing it alone and that they have help so it makes them more likely stick with it.

Challenges

- **Resistance to Change:** Some individuals are resistant to making changes in their home or lifestyle, either due to attachment to their current living environment, denial of fall risks, or reluctance to use assistive devices.

- **Lack of Awareness:** Both the individuals at risk and their caregivers may lack awareness about the importance of fall prevention and the available resources.

Objective #3: Evaluate staff for quality of data for process and outcome evaluations by July 1, 2024 for DOH-Seminole.

- Strategy 1: Evaluate staff on data entry, data quality, data completeness, and timeliness.

Evaluation Findings

In evaluation year 2023-2024, the program changed significantly with the hiring of a new program coordinator and implementation of new processes garnered from lessons learned during the previous evaluation period. The evaluation process was divided into 2 Phases: Phase 1 which consisted of 2022-2023 data, and Phase 2 which consisted of 2023-2024 data.

Part 1: Is the program being delivered as intended?

Table 1. Date differences between initial referral, initial services, and Risk Assessment

Difference in Days	Number	Median	Mean (Avg.)	Minumum	Maximum	Same Day
Phase 1						
Initial referral to initial services (Fall Prevention Program Contact Information Form)	167	0	1.0	0	39	151 (90.4%)
Initial referral to Risk Assessment	109	0	2.7	0	61	82 (75.2%)
Initial services (Fall Prevention Program Contact Information Form) to Risk Assessment	109	0	1.7	-39	61	94 (86.2%)
Phase 2						
Initial referral to initial services (Fall Prevention Program Contact Information Form)	31	0	0.5	0	7	28 (90.3%)
Initial referral to Risk Assessment	31	0	1.1	0	21	24 (77.4%)
Initial services (Fall Prevention Program Contact Information Form) to Risk Assessment	31	0	0.6	-7	21	21 (67.7%)

During Phase 1, the program received 167 referrals, with each referral being managed within the date difference between the referral date to Risk Assessment date with an average of 2.7 days, median of 0 days, and range of 0-61 days. During Phase 2, the program received 31 referrals, with each referral being managed within the date difference between the referral date to Risk Assessment date with an average of 1.1 days, median of 0 days, and range of 0-21 days. At this point in the program with little major adjustment, DOH-Seminole has found that the client finishes the program within a more reasonable timeframe between Phase 1 and Phase 2. Therefore, the program would be completed as intended.

Part 2: "How are participants being recruited?"

Table 2. Monthly Outreach, Phase 1 2022

Phase 1				2022					
	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Total Participants	19	17	11	2	8	2	5	0	1
Total Brochures	46	17	15	2	8	2	5	0	1
Total Non-Slip Socks	0	0	0	0	0	0	0	0	0
Total Flashlights	0	0	0	0	0	0	0	0	0
Total Canes	0	0	0	0	0	0	0	0	0
Total Grab Sticks	0	0	0	0	0	0	0	0	0
Total Facilities	5	3	6	3	8	10	8	7	8
Doctor Office	0	0	0	0	0	1	1	1	1
ALF	0	0	0	0	0	0	0	0	0
Fairs	0	1	0	0	0	1	1	0	1
Churches	1	0	0	1	1	2	2	2	1
Community Center	0	1	1	0	0	2	2	1	1
Homeless Shelter	1	0	0	1	1	0	1	1	0
Community Events	2	1	2	1	2	2	1	1	2
Medical Center	0	0	1	0	1	1	0	0	0
Resource Center	1	0	2	0	3	1	0	1	2
DOH/Governmental Organization	0	0	0	0	0	0	0	0	0

Table 3. Monthly Outreach, Phase 1 2023

Phase 1				2023		
	Jan	Feb	March	Apr	May	June
Total Participants	0	20	7	0	0	0
Total Brochures	0	15	3	0	0	0
Total Non-Slip Socks	0	0	0	0	0	0
Total Flashlights	0	0	0	0	0	0
Total Canes	0	0	0	0	0	0
Total Grab Sticks	0	0	0	0	0	0
Total Facilities	6	6	11	11	13	9
Doctor Office	1	0	0	0	1	0
ALF	0	0	0	0	0	0
Fairs	0	0	1	0	0	1
Churches	1	3	2	2	3	4
Community Center	0	2	1	2	2	0
Homeless Shelter	1	0	1	2	1	1
Community Events	2	0	2	2	4	1
Medical Center	0	0	1	1	1	1
Resource Center	1	1	2	2	1	1
DOH/Governmental Organization	0	0	1	0	0	0

Table 4. Monthly Outreach, Phase 2 2024

Phase 2				2024	
	Jan	Feb	March	Apr	May
Total Participants	0	0	0	0	0
Total Brochures	0	15	12	52	9
Total Non-Slip Socks	0	0	0	0	0
Total Flashlights	0	0	0	10	0
Total Canes	0	0	0	0	0
Total Grab Sticks	0	0	0	0	0
Total Facilities	0	18	15	16	14
Doctor Office	0	0	0	0	0
ALF	0	0	0	0	0
Fairs	0	0	0	0	0
Churches	0	7	6	6	5
Community Center	0	1	1	1	0
Homeless Shelter	0	2	2	2	2
Community Events	0	2	2	1	2
Medical Center	0	2	2	2	2
Resource Center	0	3	2	4	3
DOH/Governmental Organization	0	1	0	0	0

A review of the referral counts from each partner showed that the majority of recruitment occurred from public outreach (43% in Phase 1, 32% in Phase 2) and Other (25% in Phase 1, 65% in Phase 2). Assisted living facilities (ALFs) were a referral partner in Phase 1. More than any other marketing materials in both Phases of the program, brochures were the most frequently reported as being accessed.

Part 3: "What services are the most accessed?"

Table 5. FDOH Services Provided by Phase

FDOH Service Requested	Phase 1		Phase 2	
	# of Particpants	% of Particpants	# of Particpants	% of Particpants
Provide education and re-sources	61	100%	22	100%
Provide environmental and physical assessments	39	63.9%	0	0.0%
Implement effective strategies	21	34.4%	0	0.0%
Provide mobility aids	32	52.5%	1	4.5%
Total	61	100%	22	100%

In Phase 1, 61 out of 109 participants (56.0%) had a completed Medical History and Daily Health Assessments. In Phase 2, 22 out of 31 participants (71.0%) had these same items completed. In both Phases, all participants (100%) were provided education and resources. In Phase 1, environmental and physical assessments were provided to nearly two-thirds of participants (63.9%), and mobility aids provided to just over half of participants (52.4%). In Phase 2, one (1) participant (4.5%) was provided mobility aids.

Part 4: "Are the home visit components demonstrating positive outcomes?"

Table 6. Knowledge of fall prevention on Pre and Post knowledge assessment, Phase 1 (n = 35)

What are a few things you can do to prevent falls?	Pre-Knowledge Assessment		Post-Knowledge Assessment	
	# of Particpants	% of Participants	# of Particpants	% of Particpants
Excellent	6	17.1%	20	57.1%
Very Good	12	34.3%	5	14.3%
Good	15	42.9%	9	25.7%
Fair	2	5.7%	1	4.5%
Poor				
Blank			1	2.9%
Total	35	100.0%	35	100.0%

The Pre-test Knowledge Assessment was completed by 84.4% of those who completed the Initial Risk Assessment and 56.9% of all referrals in Phase 1. The Pre-test Knowledge Assessment was completed by 56.9% of all referrals in Phase 2. The Post-test Knowledge Assessment was completed by 30.3% of those who completed the Initial Risk Assessment and 21.6% of all referrals in Phase 1. No referrals completed the Post-test Knowledge Assessment in Phase 2.

In Phase 1, 35 participants completed both the Pre- and Post-test Knowledge Assessment; comparison for Question 1 was performed to assess whether the home visits provided education that increased knowledge about fall prevention. Over half (54.3%, n= 19) reported knowledge of fall prevention increased, followed by 34.3% whose responses were the same at the Pre- and Post-test Knowledge Assessment. There were three (3) individuals whose scores decreased. Of the two (2) who had "Fair" knowledge of how to prevent falls on the Pre-test Knowledge Assessment, both increased their knowledge to "Very Good" on the Post-test Knowledge Assessment.

Conclusion

In conclusion, the Falls Prevention Program implemented by DOH-Seminole has demonstrated a robust response to the significant public health challenge of older adult falls within the community. Utilizing a comprehensive approach that includes community outreach, home visits, and collaborative partnerships with local partners such as emergency medical services and assisted living facilities, the program aims to reduce fall-related injuries among adults aged 55 years and older. Through structured assessments and education sessions provided during home visits, participants have shown improved knowledge of fall prevention strategies, contributing to positive outcomes in Phase 1 of the program evaluation. The program's commitment to ongoing process and outcome evaluations underscores its dedication to refining and enhancing services, ensuring continued effectiveness and impact in improving the health and safety of Seminole County residents.

References

1. United States Census Bureau. (2024). QuickFacts: Sanford city, Florida. Retrieved on May 20, 2024 from: https://www.census.gov/quickfacts/fact/table/sanfordcityflorida/PST045223

2. University of Wisconsin Population Health Institute. (2024). Seminole, FL. County Health Rankings & Roadmaps. Retrieved on May 20, 2024, from https://www.countyhealthrankings.org/health-data/florida/seminole?year=2024

3. Central Florida Collaborative. (2023). The Central Florida Collaborative community health needs assessment. Seminole County Government. https://www.seminolecountyfl.gov/core/fileparse.php/6528/urlt/2022-CHNA-Seminole-Single-1.pdf

4. Florida Department of Health. (2023). Deaths from unintentional falls. Florida Health Charts. Retrieved on May 20, 2024, from: https://www.flhealthcharts.gov/ChartsDashboards/rdPage.aspx?rdReport=Death.Dataviewer&cid=0103

5. Florida Department of Health in Seminole County. (n.d.). Older adult falls prevention.