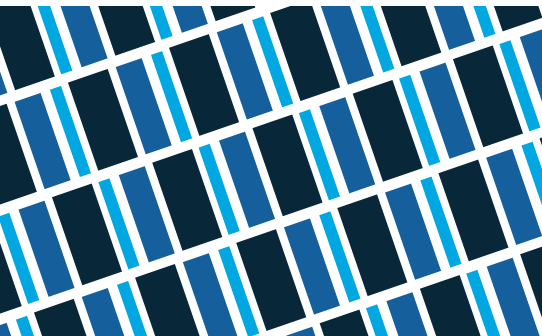# modivcare

Personal Emergency Response Program Reduces Total Cost of Care for Individuals with a History of Falls

2024

Impact of Falls

Falls are a leading cause of injury and death among older adults in the United States. According to the Centers for Disease Control and Prevention (CDC), one in four adults aged 65 and older falls each year, with about 37% suffering injuries that require medical treatment. Some may be severe, such as hip fractures, traumatic brain injuries, or even death [1]. These falls not only pose a significant threat to individual well-being but also place a substantial burden on healthcare systems.

The CDC estimates the total annual medical cost for fall injuries among older adults to be over $50 billion (about $150 per person in the US), with $38 billion (about $120 per person in the US) paid by Medicare and Medicaid (CDC, 2024). Recognizing this growing problem, various national organizations, including the CDC and the National Council on Aging, recommend implementing fall prevention strategies as a critical component of healthcare plans for older adults (CDC, 2024; NCOA, 2024).

1 in 4
Adults aged 65 and older fall each year

37%
Suffer injuries that require medical treatment

"Falls are a leading cause of injury and death among older adults in the United States"

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Modivcare's PERS Program

The Modivcare Personal Emergency Response System (PERS) program utilizes cellular connected wearable devices with built in fall detection. When a user falls, the device automatically alerts the Modivcare 24/7 Care Center who promptly assesses each situation and dispatches appropriate assistance, whether it's emergency medical services, a designated family member, neighbor or simply offering reassurance if the user is uninjured.

> By providing this comprehensive safety net and ensuring timely intervention, the Modivcare PERS program has the potential to significantly reduce fall-related injuries and associated healthcare costs.

Study Design

In collaboration with a large national health plan, this Study explores the effectiveness of Modivcare's PERS program on members with a history of falls. The health plan identified members with a history of falls (details on identification criteria provided below) for enrollment into the Modivcare PERS program. In addition to demographic data, 12 months of aggregated medical cost data was provided.

Modivcare analyzed data for medical costs incurred between September 2021 and December 2023, comparing the total medical costs for a 12-month baseline period to those of the subsequent 12-month study period for both PERS Program participants and a control population.

PERS Program Participant Population:

Inclusion Criteria

- Identified by the referring health plan as having a history of falls
- Baseline annualize total cost >$10,000

- Enrolled in Modivcare PERS program
- Possessesd 12 months of aggregated baseline and study period cost data

Population Statistics

- 1,061 participants
- 61% Female; 39% Male
- Average age = 70; 72% > 65 years
- Span 20 states across the continental US

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Control Population Inclusion Criteria:

- Identified by the referring health plan as having a history of falls (details provided below)

- Possessesd 12 months of aggregated baseline and study period cost data

- Comprised of a sample of 1,648 members balanced to match the demographic distribution (age, gender, geographic region, average baseline cost) of the PERS program population.

Fall History Identification Details

Fall history was identified using a 12-month look-back period based on claims data provided by the health plan. Members were identified as having a history of falls if their claims contained an ICD diagnosis code between W00-W19, which encompasses "slipping, tripping, stumbling and falls" according to the International Classification of Diseases (ICD) coding system.

Results

To evaluate the impact of the Modivcare PERS program on total cost of care, the analysis compared the average annual medical costs for members who enrolled in the program to those in a matched control group across both a baseline and study period.

Accounting for Inflation

Annual inflation in medical costs can significantly impact longitudinal cost analyses. This effect is especially pertinent for this study, which spans years with increased inflation due to Covid.

To account for the impact of inflation, an inflation cost-adjustment methodology was applied utilizing the average national inflation rate for 2021-2023 of 5.6% (U.S. Bureau of Labor Statistics, 2021-2023). This approach isolates the true cost reduction attributable to the PERS program.

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Table 1. Cost Comparison					
Cohort	Un-adjusted Baseline Cost (PM)	Inflation-adjusted Baseline Cost (PM)	Study Period Cost (PM)	Inflation-adjusted Annual Reduction (PM)	Inflation-adjusted Reduction (PMPM)
PERS Participants	$34,391	$36,317	$31,549	$4,768	$397
Control	$35,637	$37,633	$35,065	$2,568	$214

Accounting for inflation, the average medical spend reduction for the PERS group was nearly two times (1.8x) greater than that of the control group. PERS program participants saved an additional $183 PEMPM compared to control. Across the 1,061 member participant cohort, the study group saved $2.3 million dollars more than the control group.

Conclusion

This Study's findings support the growing body of evidence of PERS program effectiveness in mitigating fall risk and reducing total cost of care. By providing members with a safety net and prompt medical assistance, these programs help address the national challenge of increasing fall-related injuries and related healthcare spending and underscores the importance of proactive fall risk identification and intervention strategies within health plans. Implementing targeted interventions for individuals with elevated fall risk can improve member health outcomes and achieve significant cost savings.

"Modivcare's fall risk targeted PERS program saves $183 PEMPM when compared to a control group"

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Resources

Centers for Disease Control and Prevention. (2024, May 16). *About Older Adult Fall Prevention.* Older Adult Fall Prevention; CDC. https://www.cdc.gov/aging/publications/features/lonely-older-adults.html

National Center on Aging. (2024, June 1). *Get the Facts on Falls Prevention.* Aging in America; NCOA. https://www.ncoa.org/article/get-the-facts-on-falls-prevention/

U.S. Bureau Labor of Statistics. (2021-2023). Consumer Price Index; https://www.bls.gov/cpi/

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