

U.S. Senate Special Committee on Aging

Preventing Falls, Preserving Independence:

Technology, Community Programs, and Innovation in Senior Safety

Wednesday, May 20, 2026

Dear Chairman Scott, Ranking Member Gillibrand, and distinguished Members of the Committee,

I am honored to submit this written testimony to the U.S. Senate Special Committee on Aging. My name is Stephen G. Szeto, a physician specializing in Physical Medicine and Rehabilitation (PM&R), a specialty devoted to restoring function and quality of life following disease and injury. I trained at Stanford University and completed the Stanford Biodesign Innovation Fellowship, which prepared me to work at the intersection of medicine, technology, and innovation.

I practice clinically at North East Medical Services (NEMS), a Federally Qualified Health Center that operates a Program of All-Inclusive Care for the Elderly (PACE). As a PM&R specialist, many patients who experience a fall are referred to me for rehabilitation evaluation. My current work focuses on piloting fall-related technologies within our PACE population. This clinical perspective informs the framework I outline today: the **Fall Resilience Continuum**.

Falls are not only a prevention problem. They are also an injury problem and a recovery problem. The Fall Resilience Continuum proposes a paradigm shift from the traditional concept of “fall prevention” toward three inseparable phases of the fall experience: (1) rehabilitating a person’s capacity to protect themselves, (2) limiting injury when a fall occurs, and (3) sustaining recovery through community. These are not three separate policy problems; they are three phases of one continuum.

Falls Among the Elderly are a National Emergency

Each year, more than one in four adults aged 65 and older experiences a fall. Falls are the leading cause of both fatal and non-fatal injuries in this population, accounting for over 38,000 deaths annually. Current costs to the healthcare system exceed **\$80 billion**, with the majority of this burden borne by Medicare and Medicaid.¹ These are not simply statistics about aging or frailty. They are a measure of how far our current policy framework is falling short, and a clear opportunity for meaningful change.

Phase 1: Rehabilitate Intrinsic Capacity, the Ability to Catch Oneself

The first phase begins with the person. For decades, we have attempted to reduce falls by removing environmental hazards, prescribing assistive devices, and adjusting medications. These interventions matter, but they are not enough by themselves. Falls are multifactorial, and no single intervention can fully solve the problem. Even widely prescribed gait aids such as canes and walkers have limited evidence for meaningfully preventing falls.³⁻⁵

The strongest evidence for fall reduction consistently supports structured exercise.⁶ Exercise works because it improves balance, strength, coordination, and the body’s ability to recover when a person begins to lose balance. In simple terms, it helps people **catch themselves**, a reflex that diminishes with age.

However, exercise alone can be difficult to sustain at scale. To improve long-term adoption and effectiveness, we should also support technologies that help older adults maintain balance and strength in a passive and continuous way. Examples include wearable vibration insoles that improve balance and neuromuscular electrical stimulation devices that strengthen muscles without requiring active effort.⁷⁻⁸

Federal research funding, regulatory pathways, and reimbursement policy should prioritize technologies that actively rehabilitate a senior's intrinsic capacity to protect themselves, rather than focusing exclusively on external risk factors.

Phase 2: Limit Serious Injury, Moving Beyond Prevention

Even with robust prevention strategies, some falls are inevitable. Muscles weaken. Nerves slow. Cognitive function declines. In an aging population, falls can never be fully eliminated. The second phase of the Fall Resilience Continuum recognizes this reality and expands our framework beyond prevention alone, toward **injury mitigation**.

Dr. Richard G. Stefanacci, a recognized leader in geriatric medicine, articulated this shift in his work, *Shifting Paradigms in Fall Management for Long-Term Care: From Prevention to Injury Mitigation* (JAMDA, 2025).⁹ He has since initiated a PACE pilot of **FLIP (Falls: Limiting Injuries Program)**, a structured, interdisciplinary framework aimed at reducing the most devastating consequences of falls: hip fractures, traumatic brain bleeds, and other major injuries that lead to hospitalization, disability, and loss of independence.

A growing number of innovations align with this framework, including wearable airbag technologies, low-height beds, and impact-absorbing flooring.¹⁰⁻¹² Federal research funding and reimbursement policies should recognize injury mitigation as a distinct and valued class of safety technology. **Zero falls is not achievable. Zero severe injuries is.** We must shift our national goal from the impossibility of zero falls to the real possibility of zero severe injuries. In doing so, we preserve independence even when prevention fails.

Phase 3: Sustain Recovery, Community as the Clinical Foundation

Technology can build physical capacity and reduce injury, but it cannot replace the human support systems that determine recovery after a fall. Social isolation is directly associated with increased fall risk, poorer recovery, and greater likelihood of permanent institutionalization.¹³ **Community is not a supplement to care; it is a clinical necessity.**

The National PACE Association (NPA) has long championed this principle: community integration is essential to preserving senior health, dignity, and independence.¹⁴ To build a sustainable national framework for fall resilience, federal policy must strengthen two pillars simultaneously: formal community-based programs like PACE and the caregiver workforce.

PACE is a whole-person, provider-led integrated care model that enables medically complex older adults to remain safely at home while receiving coordinated care. It improves health outcomes and reduces unnecessary healthcare utilization and taxpayer costs. Yet despite its success, internal research by NPA shows only 4% of eligible older adults currently have access to PACE because of administrative and structural barriers.¹⁵

Congress can eliminate these bottlenecks by expanding PACE to all 50 states, permitting anytime enrollment, and streamlining the organization application process. Expanding PACE does more than increase access to care. It also creates a structured clinical environment where emerging fall-related technologies can be responsibly evaluated in the populations that need them most.

Traditional clinical trials often exclude medically frail older adults because of safety concerns. As a result, many innovations are never adequately studied in the very population most at risk of falling. PACE is uniquely positioned to bridge this gap. Because it is both provider-led and patient-centered, it offers the clinical oversight necessary to evaluate new technologies safely, ethically, and rigorously in real-world settings.

Congress has a unique opportunity to enable PACE organizations as national leaders in the responsible integration of senior safety technologies.

If PACE is the institutional anchor, caregivers are the domestic frontline. **An excellent caregiver is the difference between independent living and hospitalization.** However, this rapidly growing sector lacks standardized quality oversight, consistent competency expectations, and sustainable workforce support.¹⁶

Families are often forced into a difficult trial-and-error process, inviting unfamiliar individuals into their homes to assist with physically demanding and deeply personal tasks such as bathing, toileting, and transfers. For older adults at high risk of falling, caregiver instability creates both physical danger and emotional strain.

Fall-related technologies are limited without trusted people to implement, monitor, and respond to them. Congress should establish national caregiver competency standards, certification pathways, transparent quality reporting, and sustainable reimbursement structures that strengthen and stabilize this workforce.

Actionable Policy Reforms

Drawing on my training and clinical experience, I respectfully urge the Committee to consider the following six evidence-informed policy changes:

1. **Adopt the Fall Resilience Continuum into the CDC STEADI and CMS fall-related quality measures as the national framework for falls policy.**
2. **Fund research and innovation that rebuilds balance, strength, and intrinsic protective capacity in older adults.**
3. **Recognize injury mitigation as a distinct and fundable category of safety innovation.**
4. **Expand and modernize access to PACE, including expansion to all 50 states, anytime enrollment, and streamlined application processes.**
5. **Enable PACE organizations to serve as innovation hubs for emerging fall-related technologies.**
6. **Establish national caregiver workforce standards, competency expectations, quality reporting, and sustainable reimbursement support.**

Conclusion

Rehabilitate capacity. Limit injury. Sustain recovery through community.

These are not competing priorities. They are one continuum, and every phase matters.

The Fall Resilience Continuum is an evidence-based framework that captures the full reality of falls as a complex clinical and public health challenge. **By shifting our national target from zero falls to zero severe injuries, we can preserve the independence and dignity of older adults who wish to remain in their communities.**

PACE programs are where all three phases of the Fall Resilience Continuum can converge at scale. Expanding PACE, modernizing access, and supporting the responsible adoption of emerging technologies are among the most meaningful actions Congress can take to improve senior safety while preserving independence.

I am grateful for the Committee's attention to this urgent issue, and I welcome any opportunity to contribute further.

Respectfully submitted,



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REFERENCES

1. National Council on Aging. “Get the Facts on Falls Prevention.” 1 June 2024. www.ncoa.org/article/get-the-facts-on-falls-prevention/
2. Colón-Emeric CS, McDermott CL, Lee DS, Berry SD. Risk Assessment and Prevention of Falls in Older Community-Dwelling Adults: A Review. *JAMA*. 2024 Apr 23;331(16):1397–1406.
3. Clemson L, Stark S, Pighills AC, et al. Environmental interventions for preventing falls in older people living in the community. *Cochrane Database Syst Rev*. 2023 Mar 10;3(3):CD013258.
4. US Preventive Services Task Force. Interventions to Prevent Falls in Community-Dwelling Older Adults: USPSTF Recommendation Statement. *JAMA*. 2018 Apr 24;319(16):1696–1704.
5. Ganz DA, Latham NK. Prevention of Falls in Community-Dwelling Older Adults. *N Engl J Med*. 2020 Feb 20;382(8):734–743.
6. Lipsitz LA, Lough M, Niemi J, et al. A shoe insole delivering subsensory vibratory noise improves balance and gait in healthy elderly people. *Arch Phys Med Rehabil*. 2015 Mar;96(3):432–9.
7. Paillard T. Neuromuscular or Sensory Electrical Stimulation for Reconditioning Motor Output and Postural Balance in Older Subjects? *Front Physiol*. 2022 Jan 12;12:779249.
8. Stefanacci RG, Phillips C. Shifting Paradigms in Fall Management for Long-Term Care: From Prevention to Injury Mitigation. *J Am Med Dir Assoc*. 2025 Jun;26(6):105582.
9. Stefanacci RG, Kinoshian B. Mitigating Hip Injuries in High-Risk Older Adults: Clinical Evidence Supporting FDA Approval of a Novel Wearable Airbag Belt. *J Am Med Dir Assoc*. 2025 Nov;26(11):105851.
10. Haines TP, Bell RA, Varghese PN. Pragmatic, cluster randomized trial of a policy to introduce low-low beds to hospital wards for the prevention of falls and fall injuries. *J Am Geriatr Soc*. 2010 Mar;58(3):435–41.
11. Mackey DC, Lachance CC, Wang PT, et al. The Flooring for Injury Prevention (FLIP) Study of compliant flooring for the prevention of fall-related injuries in long-term care: A randomized trial. *PLoS Med*. 2019 Jun 24;16(6):e1002843.
12. Petersen N, König HH, Hajek A. The link between falls, social isolation and loneliness: A systematic review. *Arch Gerontol Geriatr*. 2020 May–Jun;88:104020.
13. National PACE Association. About National PACE Association. www.npaonline.org/about-us
14. National PACE Association (2025) Internal research – available upon request
15. Noël PH, Penney LS, Finley EP, et al. Caregiver-specific quality measures for home- and community-based services: Environmental scan and stakeholder priorities. *J Am Geriatr Soc*. 2024 Dec;72(12):3656–3667.