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In this Issue:

A Missed Opportunity: Integrating Nutrition into Home Health Therapy Practice

by Patrick Berner, PT, DPT, RDN

INTRODUCTION

Evidence supporting the integration of nutrition-related interventions within the physical therapy profession continues to grow.[1] Home health providers, particularly physical therapists (PT), may be overlooking a significant opportunity to enhance patient experience and clinical outcomes. Despite the recognized value of including a registered dietitian nutritionist (RDN) on home care teams, such integration remains limited in routine practice, partly due to restrictive insurance coverage and reimbursement policies.[2] This gap in service delivery presents a clear opportunity to advance both patient care and overall clinical practice.

Part of the solution lies in existing OASIS-E requirements, which mandate that home health providers assess nutrition-related indicators (e.g., functional status, food intake, unintentional weight changes), demonstrating that nutritional assessment is already embedded within mandated clinical workflows.[2] The remaining components of the solution involve a stepwise process for identifying need, determining appropriateness for intervention, and outlining subsequent actions and related clinical strategies. These latter components will

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Did You Hear? Read All About It!

CSM On Demand is happening now through May 6th. If you couldn't attend the 2026 Combined Sections Meeting in Anaheim, this is your chance to check out roughly two-thirds of the sessions from CSM and load up on CEUs. If you did attend in person, you can log in to view and receive CEUs for up to three virtual sessions. This will allow you to earn your full 18 hours for CSM, since live programming is now 13.5 hours. Log in at https://csm.apta.org/programming/on-demand. You will need your CSM confirmation number if you attended in Anaheim.

Several APTA Home Health leaders will be attending APTA's new Payment Summit this July in Portland, OR. This event focuses our efforts on payment and advocacy across APTA's sixty-nine components. You can find more information and even register to attend at https://www.apta.org/advocacy/payment-advocacy-summit.

Finally, keep an eye out for information about revisions to our bylaws later this spring!

Philip R. Goldsmith, PT, MSPT, DScPT, COS-C
President, APTA Home Health Academy

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constitute the primary focus of this publication.

Step One

The first step in integration is a formal identification process to assess the presence of a nutritional need. Such needs may be explicit or may be inferred from contextual factors, including recent hospitalization or acute illness. As noted previously, use of OASIS-E can aid in this process. Section K, which addresses swallowing and nutritional status, seeks information on diet modifications, the patient's ability to self-feed, chewing and swallowing safety, and recent changes in body weight.[3]

In addition to OASIS-E findings, therapists should consider incorporating direct screening questions for malnutrition using any of several standardized tools. These can include the Malnutrition Screening Tool (MST), the Simplified Nutritional Appetite Questionnaire (SNAQ), the Malnutrition Universal Screening Tool (MUST), and, for older adults living in the community, the Mini Nutritional Assessment–Short Form (MNA-SF).[4] Across these instruments, the primary indicators of concern typically include appetite, unintentional weight loss, decline in functional mobility, and medication use.

Outside of standardized screening instruments, physical therapists may also draw on physical examination findings as indicators of possible malnutrition or nutrient deficiencies.[5] For example, established diagnostic criteria suggest that the presence of two or more findings, such as loss of subcutaneous fat, muscle wasting, generalized or localized edema, or reduced handgrip strength, may be indicative of malnutrition.[5] In addition, specific nutrient deficiencies may present as clinical signs, including poor wound healing related to insufficient zinc or vitamin C, ataxia or confusion associated with thiamine deficiency, and brittle nails potentially linked to biotin deficiency.

This level of detailed examination is commonly performed by RDNs as part of a nutrition-focused physical examination (NFPE), but awareness of these signs can help physical therapists recognize when further evaluation or referral is warranted.

A deeper examination of dietary intake and associated risk factors is particularly important for individuals experiencing elevated metabolic demands, such as those recently hospitalized for an acute event, experiencing an exacerbation of a chronic condition, or recovering from planned or unplanned surgical procedures. By the time they are seen in home health, patients often have increased nutritional needs to support recovery processes, including higher caloric intake, adequate protein, and sufficient micronutrients.[6]

In the presence of socioeconomic risk factors, use of the Hunger Vital Sign may be appropriate to evaluate whether food insecurity is an underlying contributor to poor nutritional intake.[7]

When quantity is not a concern, the quality of a patient's eating pattern, including their day-to-day dietary intake, may require further investigation. This is especially relevant in the presence of conditions known to have inflammatory connections, such as diabetes, dyslipidemia, neurodegenerative disorders, and autoimmune diseases.[8] Assessment of dietary quality can often be achieved through standardized measures, such as food frequency questionnaires, 24-hour dietary recalls, or food logs. Therapists may also use simple, targeted questions, such as:

- *"How often do you eat fruits and vegetables?"*
- *"What are your typical protein sources?"*
- *"How often do you consume sugar-sweetened beverages or processed foods?"*
- *"How much water do you drink throughout the day?"*

Follow-up questions aimed at gauging readiness or awareness can also be helpful, such as: *"Do you think nutrition impacts your current condition?"*

It is important to note that the timing of nutritional screening may influence the accuracy of responses. Patients who do not understand the purpose of the questions, or who feel uncomfortable discussing food intake, may not respond accurately.

In addition to these common screening approaches, home health providers have a significant advantage that many other clinicians do not: the ability to observe the patient directly within their home environment. This unique access allows therapists to see the foods a patient has available, assess how they navigate their kitchen, evaluate their physical capabilities during meal-related tasks, and determine their overall safety in performing these activities.

None of the findings within this first step are intended to be diagnostic. Instead, they serve to signal the possible presence of a nutritional need. In the absence of an identified need, the most appropriate course of action is to provide the patient with positive reinforcement. When a nutritional need is identified, the clinician should proceed to Step Two.

Step Two

The stepwise process continues with a review of the patient's medical history to determine whether a physical therapist is the most appropriate provider to deliver nutritional intervention. This would not be the case when a patient would benefit most from medical nutrition therapy (MNT). As the Academy of Nutrition and Dietetics states, "the goal of MNT is to prevent, delay, or manage an individual's disease and enhance their well-being through nutrition."[9] MNT is commonly necessary for patients living with chronic kidney disease, gastrointestinal disorders, and poorly controlled diabetes, among other conditions. This level of targeted treatment, which involves specialized dietary planning, falls outside the scope and intention of physical therapist–delivered nutritional support. When patient needs rise to the level of requiring MNT, the most appropriate course of action is to facilitate a referral to, or establish a co-management relationship with, an RDN.[10]

Step Three

Step three of the process focuses on interpreting state-level rules and legislation, which vary considerably in the degree to which physical therapists may integrate nutrition into clinical practice. Within most state practice acts, physical therapist–specific language is typically silent regarding dietetics and nutrition. Therefore, the most important statutory interpretation involves the state's dietetics and nutrition laws.

When reviewing this material, a physical therapist should ask two key questions: **(1)** *Is there practice exclusivity, with any applicable exemptions?* and **(2)** *Are there title protections for nutritional providers?* The first question helps establish professional boundaries by determining which activities are reserved for a licensed or credentialed nutrition provider. In some states, physical therapists may be exempt from certain restrictions if they are licensed healthcare providers, or if they are offering generalized nutrition information rather than performing activities reserved for dietetics professionals. However, these exemptions do not permit the use of protected professional titles such as *dietitian*, *registered dietitian*, or *nutritionist*.

Because these regulations vary by state, this analysis also assists therapists in identifying appropriate nutrition providers in their community to whom they can refer and with whom they can co-manage a

patient's nutritional needs. As well documented, the American Physical Therapy Association (APTA) supports collaboration with RDNs as essential care partners.[10]

Step Four

Lastly, the final piece of the process involves the home health provider engaging in professional self-reflection to determine whether they are the appropriate clinician to deliver nutritional intervention. This reflection should include questions such as: *Do I have the nutritional knowledge necessary to provide education or support behavior-change techniques? Am I able to avoid personal bias when discussing nutritional information? Am I comfortable exploring an individual's determinants of healthy eating?*

For reference, determinants of healthy eating refer to both personal and environmental factors that influence a patient's food preferences, food selection, and overall access to nutritious options. Accounting for these factors is critical for ensuring that nutritional guidance remains appropriate and targets the most probable underlying barrier to healthy eating.[1]

NUTRITIONAL INTERVENTION OPTIONS

Referral

Having completed this stepwise process, the clinician will arrive at one of several appropriate actions: addressing the identified nutritional needs directly, referring or co-managing with another qualified provider, or directing the patient to relevant community resources. It is important to remember that when a patient's needs cross state-level regulatory boundaries or exceed the home health physical therapist's competencies, referral is the most optimal and ethical course of action.

A practical method for identifying a qualified nutrition provider is to visit *EatRight.org* and select "Find a Nutrition Expert," which helps connect patients with reputable RDNs.[11] In addition to RDNs, other appropriate professionals may include Certified Nutrition Specialists (CNS) and Diabetes Care and Education Specialists (DCES).

Patient Education

Education as a nutritional intervention can be a powerful tool. A home health provider may find themselves offering information on healthier eating patterns or adequate protein intake. In many cases, this education should remain broad and foundational, aimed at improving overall metabolic efficiency rather than treating a confirmed medical diagnosis.

As the provider determines the necessary educational content, it is important to consider not only the patient's determinants of healthy eating but also their readiness to change, and their nutrition and food literacy. Food literacy refers to both the knowledge of how food influences the body and the skills needed to make informed decisions about food selection. Importantly, food literacy is strongly shaped by the widespread dissemination of misinformation through online platforms around the globe.[12] Readiness to change further guides the type and depth of information delivered, whether the goal is simply to plant a seed of awareness, empower initial change, or support ongoing behavior modification.

For a home health provider to be successful in addressing a patient's nutritional needs, several key concepts should be emphasized, particularly those related to the maintenance of skeletal muscle, appropriate protein intake, and the quality of the patient's eating pattern, including the ability to interpret food labels.

Maintenance of skeletal muscle mass is strongly influenced by overall caloric intake and, importantly, protein consumption. When either of these is insufficient, the risk of sarcopenia increases. At baseline, many individuals, especially older adults, benefit from a minimum intake of 1.2 grams (g) of protein per kilogram (kg) of body weight daily to help preserve muscle mass.[13] For patients receiving home health services following hospitalization, recent surgery, or those pursuing goals related to improved functional strength, recommendations increase to 1.6 g/kg, and in some cases up to 2.0 g/kg, of body weight.[14]

Several practical strategies can help increase protein intake. These include prioritizing lean meats and plant-based proteins (e.g., beans, legumes, lentils, tofu), choosing Greek yogurt, incorporating eggs, nuts, or nut butters into meals and snacks, and seeking guidance regarding the appropriate use of protein supplements.

The overall quality of the eating pattern is another important consideration, particularly with respect to consuming adequate amounts of supportive nutrients (e.g., vitamins, minerals, antioxidants) that enhance metabolic efficiency and help reduce systemic inflammation. Evidence points to the Mediterranean diet as having some of the most beneficial anti-inflammatory effects.[15] This dietary pattern is often especially helpful for patients living with inflammatory-related conditions such as rheumatoid arthritis, multiple sclerosis, diabetes, and ulcerative colitis.

Food label interpretation is also an important skill connected to dietary quality. Food label literacy enables patients to understand a product's caloric and protein content, identify excessive amounts of added sugars or sodium, and recognize when a product is highly processed, often signaled by an unusually long ingredient list.

In addition to the Nutrition Facts label, understanding "sell by" and "use by" date language is essential, particularly for home health patients who may be more vulnerable to foodborne illness.[16] Even a mild foodborne infection can significantly disrupt recovery for individuals with complex medical needs.[17]

Additional Resources and Interventions

Beyond the basic education that can be provided to patients, several resources are worth sharing, some of which may also support the home health provider's own learning. The updated Dietary Guidelines for Americans offer practical recommendations, including the call for higher protein intake and a greater emphasis on high-quality foods.[18] The Academy of Nutrition and Dietetics' consumer-facing website, EatRight.org, contains a wide range of helpful materials, including information on essential nutrients, common health conditions, and healthy recipe ideas.[19] Another valuable resource is the National Council on Aging website (NCOA.org), which provides additional guidance on healthy eating and meal planning.[20]

For home health patients who may be homebound, qualifying food-delivery programs can substantially support nutritional intake. Meals on Wheels America is one option for eligible older adults, while Mom's Meals is another program that may provide no-cost meals for individuals covered by certain health plans.[21]

Additionally, FindHelp.org is a national online resource that allows users to search by ZIP code to identify food-related services, including food banks, food pantries, and congregate meal sites.[22]

Finally, although beyond the scope of this publication, behavioral change interventions may be warranted when long-term dietary changes are needed. These approaches often require additional time and resources and may include the use of motivational interviewing to help facilitate and sustain patient-driven change.[10]

SUMMARY

The integration of nutrition into home health physical therapy offers a substantial yet frequently overlooked opportunity to improve patient outcomes. Through the stepwise process outlined in this publication, which includes identifying nutritional needs, determining scope-appropriate intervention, reviewing state-level regulations, and engaging in professional self-reflection, home health providers can confidently address nutrition within their clinical role. Foundational education on protein intake, skeletal muscle maintenance, dietary quality, and food label literacy can meaningfully support recovery, especially for patients with elevated metabolic demands.

Ultimately, the thoughtful integration of nutrition within home health practice enhances the therapist's capacity to deliver comprehensive, patient-centered care. By identifying nutritional needs, working collaboratively with RDNs and other qualified providers, and empowering patients through tailored education, physical therapists can help address a critical yet frequently unmet component of health. This holistic approach not only supports functional recovery but also promotes long-term well-being, reinforcing the integral role that nutrition plays in optimizing patient outcomes in the home health setting.

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Dr. Patrick Berner is Director of Community Engagement and an assistant professor in the Department of Physical Therapy at the University of Alabama at Birmingham (UAB), where he specializes in threading components of population health and patient-centered care practices throughout the curriculum and leads sustainable community outreach activities. He is one of only a handful of physical therapists that also holds the Registered Dietitian Nutritionist (RDN) credential. Dr. Berner is nationally known for integrating nutrition into physical therapist practice and has co-authored several peer-reviewed publications on this topic. He has presented numerous times nationally for both physical therapy and dietetic audiences, including keynote speaker opportunities. Dr. Berner is the founding Executive Director of PT in the Community, a 501(c)(3) non-profit organization that seeks to impact local underserved and disadvantaged communities during physical therapy conferences and meetings, founding Chair of the Population Health SIG within the Academy of Leadership and Innovation, and current delegate for APTA Alabama.

Interventions to Improve the OASIS M1400 Dyspnea Score

by Brittany Czerw, PT, DPT, Penn Medicine at Home, University of Pennsylvania Health System

Dyspnea is a prevalent symptom among homebound patients, particularly those with advanced chronic diseases such as Chronic Obstructive Pulmonary Disease (COPD), Congestive Heart Failure (CHF), and neuromuscular disorders. The OASIS M1400 Dyspnea item measures the patient's level of shortness of breath during functional activities such as using a bedpan, dressing, and negotiating stairs. Physical Therapy interventions that are targeted towards improving inspiratory effort can significantly improve functional breathing tolerance, resulting in improvements in the OASIS scoring at the time of discharge. Inspiratory effort is defined as the physical exertion or muscular work (primarily diaphragm) required to inhale air into the lungs.[1]

I. Understanding the OASIS M1400

The M1400 item reflects functional impact because of dyspnea, and not the diagnosis. Improvement occurs when the patient can perform more activities with less episodes of shortness of breath such as:

- Moving from having dyspnea at rest to experiencing dyspnea only with minimal exertion
- Performing ADL's without having to take rest breaks
- Ambulating household distances with controlled breathing efforts

Accurate scoring depends on both patient's rating on the Modified BORG Dyspnea scale (MBS) and clinician observation during routine activities. The MBS is a 10-point scale shown in Image 1 asks patients to rate how breathless they feel during an exercise or functional activity such as ambulation, moving in bed, or negotiating stairs. [2]

Shortness of Breath Modified BORG Dyspnea Scale			
0:	Nothing at all	5:	Severe
0.5:	Extremely Slight (just noticeable)	6:	
1:	Very Slight	7:	Very Severe
2:	Slight	8:	
3:	Moderate	9:	Extremely Severe (almost maximal)
4:	Somewhat Severe	10:	Maximal

Image 1. Modified BORG Dyspnea Scale

Clinician observation can include looking for signs of breathlessness such as accessory muscle usage, oxygen desaturation, inability to carry on a conversation during activity, and increased respiratory rate.

II. Breathing Techniques

1. **Pursed Lip Breathing** helps to maintain airway patency and reduces the work of breathing by prolonged exhalation. It is particularly beneficial for patients with obstructive lung diseases. Patients are instructed to take a deep breath in through their nose with the mouth closed, pause for a few seconds and then purse your lips as if you are blowing out candles. Patients are then told to slowly exhale out through their mouth with the lips in a pursed position. [3]
2. **Diaphragmatic Breathing** encourages the use of the diaphragm rather than accessory muscles, improving ventilation efficiency and reducing respiratory rate. Patients are instructed to place one hand over their chest and one hand below their rib case. They are instructed to inhale as if they are filling a balloon behind their rib cage. They should feel the hand placed at the bottom of the ribcage pull in first, followed by the hand placed over the chest. This technique is beneficial for patients with restrictive lung diseases. [3]

III. Positioning

Proper positioning can reduce the work of breathing (see Image 2).

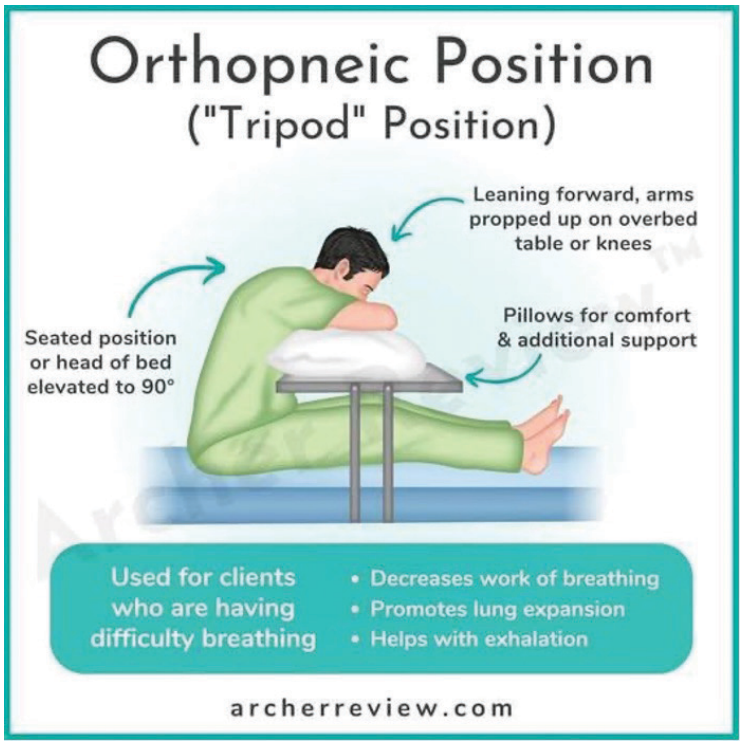

Image 2. Archer NCLEX Review Orthopneic (Tripod) Position

- Upright posture during activity: Maintaining an upright posture can enhance diaphragmatic movement and lung expansion.
- Forward leaning positions during recovery: Education on recovery positions can help patients to self-manage dyspnea episodes with a sense of having more control over their symptoms.
- Use of arm support during standing exercises: Leaning forward with support can facilitate diaphragmatic descent and reduce the sensation of breathlessness.
- The Tripod (Orthopneic) position is a method to allow patients to breathe easier. To get into the Tripod position, sit down, lean your chest slightly forward, supporting the trunk with hands or arms on a table.[4]
- The Tripod position might partially relieve difficulty breathing that comes with many respiratory conditions including CHF, COPD, Interstitial Lung Disease, Pneumonia and Pulmonary Hypertension.[4]

IV. Activity Pacing and Energy Conservation

Teaching patients how to properly pace during activities can significantly reduce dyspnea during functional tasks. Discuss breaking tasks into smaller tasks versus working until exhaustion. Schedule rest periods before fatigue occurs. Provide education to avoid holding your breath during exercise and functional tasks. Patients should be instructed in pursed lip breathing to keep oxygen levels from desaturating and maintaining a normal respiratory rate. Encourage patients to sit during grooming and meal preparation when needed to conserve energy. The use of durable medical equipment can reduce dyspnea by reducing the effort needed to complete a task.

V. Incentive Spirometer and Positive End-Expiratory Pressure (PEEP)

The incentive spirometer is a mechanical hand-held breathing device in which the patient is instructed to take slow deep breaths through the device's mouth piece.[5] The device as illustrated in Image 3 gives the patient visual feedback on the volume of inspiration. Patients are instructed to place their mouth on the mouthpiece and suck in as if they are drinking through a straw. Once the patient has achieved the maximal inspiratory volume, they are requested to hold the piston in the same position for 5-10 seconds. After holding the inhalation for the specified amount of time, the patient is instructed to remove the mouthpiece and allow gravity to return the piston to its original starting position. It is preferred that the spirometer is performed with the patient either sitting upright or standing.

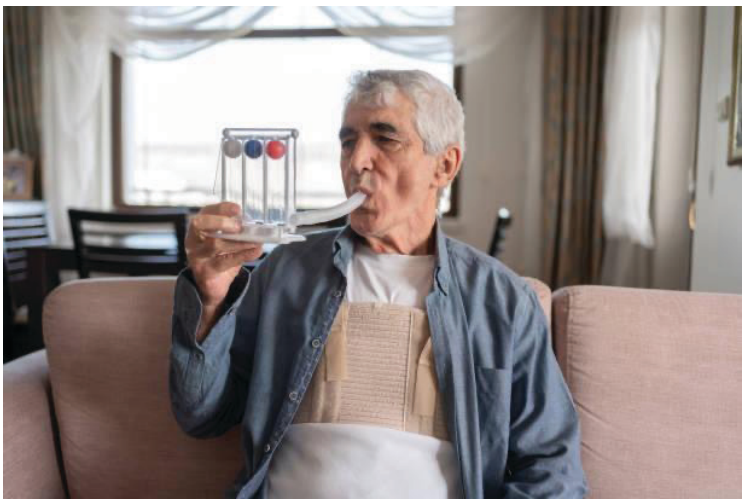

Image 3. Breathing Exercises with Spirometer at Home

The Acapella PEP device (Image 4) is a highly effective user-friendly oscillating positive expiratory pressure device used for airway clearance in patients with COPD and bronchiectasis.[6] Research demonstrates improvements in lung function (FEV1 and FVC), enhanced sputum clearance, and better patient compliance. The Acapella device is not gravity dependent and can be performed in any position. The Acapella device has been shown to be a suitable alternative to manual

chest physical therapy to aid in secretion removal.[7]

Image 4. Acapella Vibratory (PEP) Mucus Clearance Device

VI. Incentive for improving the M1400 Dyspnea Score

Patient improvement on dyspnea is an important factor in snagging a payment boost under the Home Health Value Based Purchasing Act (HHVBP). The M1400 accounted for 6% in 2025 to the agency's total performance score and now accounts for 7% in 2026.[8] The M1400 Dyspnea score is also included in the publicly reported Quality of Patient Care star rating, which is an additional incentive for improvement. [9] A patient's strong respiratory and endurance condition is important to Medicare because it helps the patient continue to live at home. It's because of this that Medicare tracks and scores home health agencies' ability to improve respiratory and endurance function on the Quality of Patient Care Star Rating.[9] The ability to improve dyspnea is dependent on determining the cause and tailoring the intervention to improve breathing.

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Brittany Czerw, PT, DPT graduated with a Doctorate in Physical Therapy from Misericordia University. She is a full-time clinician at Penn Medicine at Home, which is the home health agency of the University of Pennsylvania Health System. Dr. Czerw serves on the APTA Home Health Academy's Publication Committee. She can be reached at Brittany.Czerw@pennmedicine.upenn.edu

OASIS Tip Corner: M1400 Dyspnea

by Kristin McCormack, PT, DPT

		When is the patient dyspneic or noticeably Short of Breath?
M1400	0	**Patient is not short of breath**
	1	**When walking more than 20 feet, climbing stairs**
	2	**With moderate exertion** (for example, while dressing, using commode or bedpan, walking distances less than 20 feet)
	3	**With minimal exertion** (for example, while eating, talking, or performing other ADLs) or with agitation
	4	**At rest (during day or night)**

Did you know, the item intent is to identify the *level of exertion/activity* that results in a patient's dyspnea or shortness of breath the day of assessment meaning, we cannot score M1400 if we haven't assessed the patient's various functional activities to determine the level of exertion that resulted in the shortness of breath?

Tip: *Score M1400 Dyspnea after you've done your assessment of the M1800+ functional items.*

Are you surprised to learn that the time period under consideration is the 'Day of Assessment' which is defined as the 24 hours immediately preceding the home visit and the time spent by the clinician in the home?

Tip: *Observe your patient through the visit and Interview your patient/caregiver querying what activities have gotten the patient winded in the past 24 hours. Ask if they ever need to stop and rest or catch their breath and if so, when?*

Were you aware, if your patient uses their oxygen intermittently, regardless of if ordered continuously, the guidance directs us to score the response based on the patient's shortness of breath *without* the use of oxygen? This includes a person who is only short of breath when supine and requires the use of oxygen at night but is not short of breath when ambulating > 20 feet or climbing stairs.

Tip: *Ask the patient/caregiver if the oxygen is removed during certain tasks (when toileting, bathing, etc.) and if so, code M1400 without oxygen use. If the patient is short of breath when supine and oxygen is only worn at night, the patient would be scored* ***Response 4 – at rest****.*

Did you realize, the examples in parentheses under Response 2 – with moderate exertion and Response 3 – with minimal exertion are meant to guide the clinician and *not* replace their clinical judgement?

Tip: *Ask your patient to remove their socks and shoes (we have to assess skin integrity, lower body dressing, and ability to reach their feet for bathing, right?). If they become short of breath after just managing their shoes, the clinician could consider scoring* ***Response 3 – with minimal exertion****, if in the clinician's judgement, the patient became dyspneic after exerting just minimal effort even though 'while dressing' is listed as an example for Response 2 – with moderate exertion.*

Do you routinely review your patient's health history including diagnoses (past and current), surgeries, and smoking/vaping history? Did you select Response 8 - Currently reports exhaustion on Item M1033 - Risk of Hospitalization and if so, does the exhaustion cause the patient to become dyspneic? If your patient is required to be homebound, is the patient's dyspnea level contributing to the normal inability to leave home causing considerable and taxing effort on outings?

Tip: *These considerations can assist the assessing clinician to see the forest through the trees and ensure scoring on M1400 Dyspnea is consistent with scoring on other related items in the OASIS and the patient's clinical presentation on the 'day of the assessment'.*

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Dual-Task Training in Rehabilitation: Preparing Older Adults for Real -World Mobility

by Dhruti Patel, PT, DPT, ACHH

Introduction

Mobility in daily life rarely occurs as a single isolated activity. Older adults commonly walk while talking with family members, navigate busy environments while planning the next meal, or carry objects while maintaining balance. These activities require the integration of cognitive and motor processes. When two tasks are performed at the same time, the brain must divide attention between them. If the available attentional resources are insufficient, performance in one or both tasks may decline. This phenomenon is commonly described as dual-task interference.[1]

Research in elders shows that walking is not entirely automatic and relies on cognitive control, particularly executive function and attention. When cognitive demands increase during walking, many older adults demonstrate slower gait speed, reduced step length, and greater variability in step timing.[2] These changes suggest that mobility becomes increasingly dependent on higher-level cognitive processes with aging. As a result, multitasking situations may place older adults at greater risk for mobility limitations and falls.

Dual-task deficits are clinically important because they often reveal impairments that are not apparent during single-task testing. A patient may walk safely in a quiet therapy environment but experience instability when attention is divided between walking and another activity. In community settings, multitasking situations are common and often unavoidable. For this reason, many rehabilitation programs now incorporate dual-task training (DTT) to better reflect real-world mobility demands.

Dual-task training involves performing a motor task and a cognitive task simultaneously during therapy. Examples include walking while performing a verbal fluency task, balancing while responding to questions, or completing memory exercises while moving through an environment. The goal is to improve the ability to manage competing attentional demands during functional mobility.

Over the past two decades, clinical trials and systematic reviews have examined whether combining cognitive and physical tasks during training improves mobility, balance, and cognitive performance in older adults. Evidence suggests that dual-task interventions may improve gait performance, executive function, and balance, although outcomes vary depending on the patient population and training protocol.[3-5] This growing body of research supports the integration of cognitive challenges into mobility training for older adults as well as individuals with neurological conditions.

The purpose of this article is to review the clinical rationale for dual-task training, summarize key research findings, and describe practical strategies for implementing dual-task interventions in rehabilitation settings.

Cognitive and Motor Interactions in Mobility

Successful mobility requires coordination between multiple systems, including musculoskeletal strength, sensory input, and cognitive control. While walking was once considered an automatic motor activity, research now shows that executive functions such as attention, planning, and working memory contribute to safe ambulation.[6]

Older adults often demonstrate changes in these cognitive domains, which may influence gait performance. For example, when a cognitive task is introduced during walking, individuals may reduce walking speed or alter step patterns to maintain stability. These adjustments may represent compensatory strategies that prioritize balance over task performance.

Dual-task interference becomes particularly evident in individuals with cognitive impairment or neurological conditions. Studies involving older adults with mild cognitive impairment (MCI) have shown that multitasking can significantly affect both gait performance and cognitive accuracy.[7] In these populations, divided attention during mobility may increase the risk of instability or falls.

Because daily activities frequently involve multitasking, evaluating dual-task ability provides valuable information about functional mobility. Dual-task assessment can reveal deficits in attentional allocation and help clinicians identify patients who may struggle with complex community environments.

Evidence Supporting Dual-Task Training

A growing body of research supports the use of dual-task interventions in rehabilitation. Studies have examined the effects of combined cognitive and physical training across various populations, including healthy older adults, individuals with cognitive impairment, and those with fall risk.

One randomized controlled trial involving older adults with mild cognitive impairment compared simultaneous cognitive-physical

training with physical training alone and cognitive training alone. Participants completed 24 training sessions that combined aerobic exercise with cognitive tasks. The combined training group demonstrated improvements in executive function, cardiorespiratory fitness, and walking performance that exceeded those seen in the other groups.[7] These findings suggest that integrating cognitive and physical challenges may produce broader functional gains.

Meta-analytic evidence also supports the effectiveness of dual-task interventions. A systematic review including 21 randomized controlled trials and more than 2,000 participants found that dual-task training improved gait speed, balance, and dual-task walking performance in older adults with cognitive impairment. Improvements in cognitive outcomes such as global cognition and executive function were also reported, although the magnitude of these effects was smaller than the physical improvements.[3]

Other research has examined the effects of multicomponent training programs that combine cognitive and physical activities. A meta-analysis of randomized trials found that multicomponent interventions improved both physical capacity and cognitive function in older adults, including those with mild cognitive impairment.[4] These programs typically include strength training, aerobic exercise, balance activities, and cognitive challenges delivered either simultaneously or in separate sessions.

Long-term training studies also suggest that dual-task exercise may help preserve cognitive abilities. In one pilot study, healthy older adults who participated in weekly cognitive-motor training for two years maintained stable cognitive scores, whereas those who discontinued training demonstrated declines in attention and global cognitive performance.[8] Although the sample size was small, the findings suggest that ongoing engagement in cognitively demanding physical activities may support cognitive health during aging.

Additional randomized trials have examined the effects of dual-task training on balance and postural control. Combined cognitive-motor training programs have been shown to improve balance, gait performance, and attentional control in older adults when compared with physical training alone.[9] These improvements are particularly relevant for activities of daily living that require multitasking, such as walking while carrying objects or performing household tasks.

However, not all studies show superior outcomes for combined interventions. Some research has found that adding cognitive tasks to exercise programs does not always produce greater improvements in mobility than exercise alone.[10] These findings highlight the importance of carefully designing training protocols and matching task difficulty to the patient's abilities.

Dual-Task Training and Fall Risk

Falls are a major concern for older adults and are often associated with mobility limitations and reduced independence. Many falls occur during situations that require divided attention, such as walking while conversing or navigating unfamiliar environments.

Dual-task training has been investigated as a strategy for improving gait stability and reducing fall risk. A multicenter randomized controlled trial involving adults with an average age of more than 80 years compared strength-balance training alone with strength-balance training combined with computerized cognitive training. Participants in the combined training group demonstrated greater improvements in dual-task gait performance, reaction time, and divided attention. The intervention was also associated with reduced fear of falling and fewer fall events.[11]

Other studies have explored dual-task training in individuals with concerns about falling. In a randomized trial involving community-dwelling older adults, participants who completed a 12-week dual-task training program demonstrated improvements in step length during both single-task and dual-task walking conditions.[12] These findings suggest that dual-task training may improve gait efficiency even in individuals who are cautious about mobility.

Dual-task interventions also influence cognitive outcomes. In a small study involving older adults with a history of falls, participants who performed walking combined with memory and arithmetic tasks demonstrated improvements in working memory after six weeks of training.[13] Although gait performance did not significantly change in this study, the results suggest that cognitive benefits may occur even when physical outcomes remain stable.

Clinical Applications of Dual-Task Training

Dual-task training can be incorporated into rehabilitation programs using a variety of motor and cognitive activities. Tasks should reflect functional situations that patients encounter in daily life.

Primary Motor Task	Secondary Cognitive Task	Secondary Motor Task	Clinical Purpose	Progression
Walking in hallway	Counting backward	Carrying cup	Train divided attention during gait	Increase counting difficulty
Walking with walker	Naming animals or foods	Carrying laundry	Simulate household activities	Increase walking distance
Standing balance	Mental math	Passing object between hands	Improve postural control	Narrow base of support
Sit-to-stand transfers	Reciting months backward	Holding weighted object	Improve functional strength with attention demands	Increase repetitions
Walking in living room	Answering questions	Carrying grocery bag	Improve real-world mobility	Add obstacles
Step-ups on stair	Naming cities or states	Carrying object	Improve stair negotiation	Increase step height
Turning during gait	Word generation tasks	Carrying tray	Improve dynamic balance	Increase walking speed
Walking outdoors	Conversational tasks	Carrying items	Improve community mobility	Uneven surfaces
Tandem walking	Category naming	Holding object	Improve balance challenge	Increase task complexity
Obstacle navigation	Counting backward by 7s	Carrying cup of water	Improve environmental awareness	Reduce therapist cues

Table 1. Examples of Dual-Task Training Activities in Rehabilitation.

Patient-Centered Implementation

Successful dual-task training requires a patient-centered approach. Therapists should begin with an assessment of both single-task and dual-task performance to determine how cognitive demands influence mobility. Observing changes in gait during multitasking can help identify deficits in attentional control and guide intervention planning.

Patient education is also important. Many individuals are unaware that multitasking can affect balance and walking safety. Discussing these effects may help patients recognize high-risk situations and adopt safer mobility strategies.

Training activities should reflect the patient's daily routines and personal goals. For example, patients who frequently shop or navigate community environments may benefit from walking tasks that involve navigation or conversation. Tailoring interventions to real-world activities may improve engagement and promote better transfer of therapy gains. Safety remains a priority throughout dual-task training. Therapists should provide appropriate supervision and environmental support, particularly when introducing new tasks.

Limitations and Future Directions

Despite promising findings, several limitations exist in the current literature. Dual-task studies vary widely in training duration, task complexity, and outcome measures. These differences make it difficult to determine the most effective training protocols.

Some research suggests that cognitive training alone may produce strong cognitive benefits, while physical training alone may improve mobility outcomes.[14] Other studies indicate that multicomponent interventions that combine cognitive, physical, and nutritional components may produce broader improvements in cognitive function.[15]

Future research should focus on identifying optimal training intensity, frequency, and task combinations for different patient populations. Larger randomized trials are also needed to determine whether dual-task training leads to long-term improvements in functional independence and fall prevention.

Conclusion

Mobility in everyday life requires individuals to manage cognitive and motor demands simultaneously. For many older adults, these multitasking situations can challenge gait stability and increase fall risk. Dual-task training provides a practical rehabilitation strategy that reflects real-world mobility demands.

Evidence from randomized trials and systematic reviews indicates that combining cognitive and physical tasks during training may improve gait performance, balance, and aspects of cognitive function. While outcomes vary across studies, dual-task interventions appear particularly valuable for addressing divided attention during mobility.

Incorporating dual-task challenges into rehabilitation programs allows therapists to train patients for the complex environments they encounter in daily life. A patient-centered approach that considers individual goals, abilities, and safety needs remains essential for successful implementation.

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About the author:

Dhruti Patel, PT, DPT, ACHH, is a home health physical therapist based in Maryland. She is the co-founder of Safe Steps Foundation, a community initiative focused on fall prevention and improving mobility among older adults. She also serves as the Director of Diversity, Equity, and Inclusion for the Maryland Chapter of the American Physical Therapy Association and is an Advisory Board Member at Shenandoah University Division of Physical Therapy. Her interests include promoting healthy aging, community engagement, and practical strategies that help older adults stay active and independent. In her free time, she enjoys spending time outdoors with her husband and their 4-year old son.

2026 Home Health Award Winners

President's Award. The purpose of this award is to recognize an APTA Home Health Academy member who has provided notable service to the Academy through involvement as an officer, committee member, or chairperson, presenter, author, or organizer of Academy-sponsored publications, programs, or projects. Through their tenure, recipients demonstrate meritorious service through exemplary leadership, personal influence, accomplishments, or consistent and sustained work supporting Academy development.

Winner: Tracey L. Collins, PT, PhD, MBA, GCS

Biography:

Tracey Collins lives in Clarks Summit, PA, but is originally from Endicott, NY, and is currently an Assistant Professor at the University of Scranton. She's been a board-certified specialist in geriatrics since 1998. Dr. Collins has practiced in home health and hospice for over 30 years. She continues to practice in home health through Comprehensive Medical Home Care. Dr. Collins received her BS in PT from the University of Scranton in 1989, MBA from UNC-Wilmington in 1997, and her PhD in Health Administration from Walden University in 2006. She has presented 22 posters, 21 platform presentations, and 8 educational sessions at CSM, one educational session at ELC, four educational webinars for physicaltherapy.com, and one for Medbridge. Dr. Collins also has 8 peer reviewed journal articles as first author.

Service to the Profession:

- NCPTA Treasurer 1997-2000
- Finance Committee for the Geriatric Academy of the APTA 2003-2011
- Specialization Academy of Content Experts (SACE) January 1, 2013 through December 31, 2018
- ABPTS Geriatrics Panel 2026-2029
- The Federation of State Boards of Physical Therapy (FSBPT) Standards Setting Committee 2017
- Research Committee for the Home Health Section of the APTA 2012-2016 and 2024-present
- Research Chair of the Home Health Section of the APTA 2016-2024
- Home Health Section of the APTA Student Program Task Force 2014-2015
- Co-Advocate for Pennsylvania APTA Geriatrics. 2022-2024

Excellence in Home Health Leadership Award. This award recognizes the exceptional contribution of an APTA Home Health member in promoting home health physical therapy practice. Recipients must serve as an advocate for the profession of physical therapy within the home health care industry, demonstrate involvement in activities that encourage innovation in the delivery of home health physical therapy services, contribute to the development, organization or implementation of a project or program that benefits the consumers of home health physical therapy services, and/or advocates for physical therapy at the federal or state level.

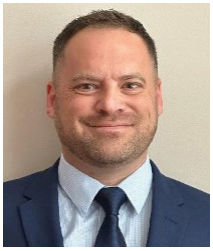
Melissa L. Bednarek, PT, DPT, PhD

Personal statement:

It has been an honor to be a part of the Advanced Competency in Home Health (ACHH) since its inception. I have appreciated the effort of so many in APTA Home Health to develop and maintain this program for the past 10 years. But none of this would be possible without home health clinicians, from across the country, placing their trust in the program faculty and their peers to ensure they are providing the best evidence-based care for their patients!

A brief biography:

Melissa Bednarek received a Master of Physical Therapy from MCP Hahnemann University, a PhD in Physiology from Virginia Commonwealth University, and a transitional Doctor of Physical Therapy from Chatham University. She has been a Board-Certified Clinical Specialist in Cardiovascular and Pulmonary Physical Therapy since 2014. In 2009, she joined the faculty in the Doctor of Physical Therapy Program at Chatham University in Pittsburgh, PA, where she is currently Professor and Program Director. Dr. Bednarek teaches clinical physiology, cardiovascular and pulmonary physical therapy, and the pharmacology thread in the curriculum. She has clinical experience in acute care, home health, and outpatient pulmonary rehabilitation. Her research interests include interprofessional education, high-fidelity simulation, and patients with pulmonary disease.



Nick Panaro, DPT, COS-C

Biography:

Nick Panaro, DPT, COS-C has been a licensed Physical Therapist since 2003, working specifically in the Home Health setting since 2007. He currently serves as Director of Rehab Services for UPMC Home Healthcare based out of Pittsburgh, PA. Nick is one of the original content creators for the Academy of Home Health's Advanced Competency in Home Health certification program. He remains one of the current faculty presenting live course content for the certification program virtually and in-person around the country. Nick has also been a board certified Geriatric Clinical Specialist since 2015.

Emerging Leader in APTA Home Health Award. This award recognizes and honors one Physical Therapist or Physical Therapist Assistant who has demonstrated extraordinary service and clinical passion early in their home health career. The individual should have made exceptional overall accomplishments and contributions to the APTA and/or APTA Home Health mission and vision, and to the physical therapy profession to advance quality and evidence-based care in the home.

Winner:

Zeeshan Bhimani, PT, MHS-PT, CFPS

Personal statement:

I am deeply honored to be named the Emerging Leader of Home Health for 2026. This recognition from APTA Home Health reinforces my commitment to advancing our profession through clinical excellence, professional advocacy, and meaningful research. Leadership in our field is about more than clinical outcomes; it is about ensuring that the clinicians providing that care feel supported and empowered within a sustainable practice model.

This year, I am also proud to be a co-recipient of an APTA Home Health Research Grant alongside my colleague, Juhi Vora. Our study, 'The Clinician Voice: A Qualitative Study on Documentation Impact and Interdisciplinary Collaboration in Home Health', serves as a critical expansion of our previous research. Our earlier findings established that satisfaction with documentation is the strongest predictor of overall job satisfaction.

Through this new investigation, we plan to capture the lived experiences of PT, OT, SLP, and Nursing professionals to understand how documentation burdens such as "pajama time" and EHR usability impact their daily practice and interdisciplinary collaboration. Our goal is to translate these 'clinician voices' into actionable insights that reduce burnout and improve the quality of care in the home health setting. I look forward to continuing my work with the Publication Committee and the Maryland Branch to drive initiatives that protect both our clinicians and the geriatric populations we serve.

Biography:

Zeeshan Bhimani is an accomplished Physical Therapist and Master of Health Sciences with over 10 years of diverse clinical experience across home health, outpatient, and skilled nursing settings. As Director for Reimbursement at the APTA Maryland Branch and a member of the Publication Committee, he merges clinical expertise with leadership, driving quality initiatives and professional advocacy. A Certified Falls Prevention Specialist (CFPS) also credentialed in FMT, Dry Needling, and CPR, his research includes publications on telehealth and evidence-based exercises to reduce falls in elderly populations, reflecting a deep dedication to advancing patient care and geriatric safety.

Excellence in Home Health Clinical Practice Award. This award recognizes a Physical Therapist or Physical Therapist Assistant for outstanding clinical practice in a home health care setting through superior knowledge of scope of practice, exceptional patient safety improvement, exemplary patient advocacy and outcomes, and demonstrate excellence in clinical knowledge through development and/or execution of a clinical program applicable to home health physical therapy commitment to innovative, evidenced-based clinical care, and problem-solving in the home setting that leads to improved patient outcomes.

Winner:

Ryan Sharrow, PT, MBA, GCS

Biography:

In his role as AVP of Therapy Care and Research, Ryan oversees clinical therapy specialty areas with a primary focus on the Safe Strides fall risk management program. As a therapy leader, he is also widely involved in division-wide performance improvement and process development activities to help support CenterWell Home Health's 4500 therapy clinicians.

Starting with the company in 2006, Ryan brought a passion for clinical excellence to his initial role as a field clinician, and then in 2010 as the Rehabilitation Director for the Duluth, MN branch. He moved into an Area Rehabilitation director role in 2019, supporting states in the upper Midwest region of the country. Early 2024 saw him move into his current position, overseeing the revision and ongoing development of the clinical programs that were part of his initial draw to join the company.

With a focus on clinical excellence and lifelong learning, Ryan's time with the company has been one of collaborative leadership. He

continues this focus with his participation in the Executive Leadership Coaching program through the CNO and with his recent graduation with an MBA in Healthcare Management. He is a member of the American Physical Therapy Association and the American College of Healthcare Executives.

Home Health Research Grant. The grant program encourages the process of data collection and care practice investigation through the development of pilot studies to enhance opportunities for evidence-based practice.
Winner: Zeeshan Bhimani, PT, MHS-PT, CFPS

2026 CSM Best Platform Presentation Award:

Therapy Ends, Obstacles Remain: Barriers to Community Mobility in Structurally Disinvested Neighborhoods

Lindsey Marie Mathis, PT, DPT[1], Morgan T Fique[2], Jason Raymond Falvey, PT, DPT, PhD[2] and Jasmine K Cooper[2], (1)Bryans Road, MD, (2)Baltimore, MD

2026 CSM Best Poster Presentation Award:

Improving the MAHC 10: Identifying a Sub-Score to Improve Fall Risk Identification in Home Health Practice

Ryan James Sharrow, PT, MBA-HA, CenterWell Home Health, Hermantown, MN and Matt Janes, PT, DPT, MHS, CenterWell Home Health, Louisville, KY

Hearing Loss as a Modifiable Risk Factor: Opportunities for Early Detection and Interventions in Home Health Physical Therapy

by Kristin McCormack, PT, DPT and Dominic DiPrinzio, DPT

Hearing loss is a common impairment and/or diagnosis all therapists routinely encounter. Yet most who come across it do not understand to an appropriate depth its pathophysiology nor its implications. The goals of this editorial include the following:

1. Define normal hearing and what constitutes hearing loss.
2. Describe the nuanced pathophysiology underpinning different versions of hearing loss.
3. Present the latest evidence-based research on the far-reaching impacts of hearing loss on one's health and well-being beyond its known effects on speech, communication, and fall risk, highlighting loneliness, social isolation, cognitive impairment, and dementia.
4. Equip home health therapists with the tools needed to intervene and mitigate the impact of hearing loss in our patients and loved ones.

Hearing loss degrees

To understand hearing loss, one must understand what normal hearing is. Sound is measured in decibels (dB) and according to the World Health Organization, normal hearing is the ability to hear sounds of 20 dB in both ears.[1] Hearing loss is defined as difficulty hearing sounds at 25 dB or less in at least one ear and can range from mild (26-40 dB), moderate (41-55 dB), moderately severe (56-70 dB), severe (71-90 dB), or profound (90 dB or higher).[1,2] **Disabling hearing loss** is

defined as hearing loss greater than 35 dB in the better hearing ear.[1] Table 1 lists decibel levels one may encounter in everyday life.[2,3]

Table 1.

30 dB	whisper, quiet library
40 dB	refrigerator hum
50 dB	normal conversation, moderate rainfall
60 dB	dishwasher, clothes dryer
70 dB	alarm clock, washing machine
85 dB	hair dryer, city traffic
90 dB	blender
95 dB	motorcycle
110 dB	car horn
120 dB	siren

Hearing loss globally is on the rise and by 2050, its projected nearly 2.5 billion people will have some degree of hearing loss and nearly 1 in 10 people will have disabling hearing loss.[1,4] Hearing loss increases with age and greater than 25% of adults over the age of 60 years experience disabling hearing loss.[1] In the United States, more than 50 million Americans have hearing loss which correlates to 1 in 7 people.[4] Of those, 5% of adults ages 45-54 years have disabling hearing loss which increases to 10% in those ages 55-64 years, 22% in ages 65-74 years, and 55% for adults 75 years and older.[5] Hearing loss is the third most common chronic physical condition in the United States and twice as prevalent as cancer and diabetes.[4] In adults ages 20-69 years, men are nearly twice as likely as women to have hearing loss with non-Hispanic white adults having the highest prevalence among racial/ethnic groups.[5]

Types of hearing loss

There are three types of hearing loss named for where they occur in the peripheral auditory system moving from the external ear inward: conductive, sensorineural, and mixed. **Conductive** hearing loss is caused by changes in the outer or middle ear and is typically related to infection, blockage (cerumen impaction), or structural issues. **Sensorineural** hearing loss occurs in the inner ear (cochlea) or to the vestibulocochlear nerve and is the most common form. It is here that sound is encoded into a neural signal which is sent centrally and ultimately decoded into meaning by the brain. Hearing loss can be caused by aging, illness/viral infections, exposure to loud noises, trauma/head injury, ototoxic medications, chronic diseases, smoking, otosclerosis, or inherited. **Mixed** hearing loss involves both.[1,2,6,7]

Age-related sensorineural hearing loss is called **presbycusis**.[2] It is the most common form of hearing loss and is due to progressive damage to cells within the cochlea that is irreversible.[7] Given the statistics and the patient population typically treated in the home health setting, our likelihood of encountering a patient with hearing loss daily, diagnosed or undiagnosed, is high. The impacts of hearing loss are mighty and in our professional opinion, not commonly known by therapists. When not addressed effectively, hearing loss can cause limitations in communication and speech, and is strongly associated with social isolation, loneliness, stigma, and dementia.[1,7,8] Moreover, adults with hearing loss have decreased function, diminished gait speed, and greater risk of frailty. Frailty in this population is potentially related to poorer balance and reduced activity plausibly increasing risk for falls.[7,8]

Loneliness and Social Isolation

The impact of age-related hearing loss on a person's communication, speech capacity, balance, and fall risk are well understood. However, the impact on one's social domain are lesser known and are potentially an underrepresented area largely affecting this population. Specifically, loneliness and social isolation are different affective states that are often experienced by those with age related hearing loss.[9] Each of these experiences are nuanced in their own right but are in other ways inextricably linked to one another and can exist simultaneously by those impacted by hearing loss, making them paramount to address in this population.

Loneliness can be defined as a "subjective and distressing experience that results from perceived isolation or inadequate meaningful connections".[10] It is important to note the two primary components of loneliness being the number of social interactions and perceived quality of these interactions. Social isolation differs slightly, as it is intended to be a more objective measure of a person's entire social network, number of social contacts, and the frequency of interaction.[9] One can be considered socially isolated without reporting loneliness, which further highlights the distinction between the two.

People with hearing loss may be more susceptible to both loneliness and social isolation for a variety of reasons. Most notably, the decline in auditory processing can make engagement in meaningful conversation quite difficult. When the degree of auditory input is reduced, the capacity for following the conversation also decreases. Over time, this deficit can lend itself to conversational avoidance, subsequently impacting one's willingness to engage with others in their social network or build a larger social network. Those experiencing hearing loss may also be less willing to engage with those around them due to the personal assumption that they will not be able to hear, thus perpetuating potential isolation. The increased cognitive load required to process auditory information in the presence of hearing loss may also lead to fatigue and decreased overall capacity for social activity.[9]

Cognitive Impairment and Dementia

The deleterious health effects of loneliness and social isolation across many domains are currently well understood. Loneliness and social isolation have been repeatedly associated with many different disease states, including cardiovascular and metabolic disorders. They have also been linked to higher levels of depression, dementia, and overall reduction in cognition. In fact, age-related hearing loss has consistently demonstrated significant association with cognitive impairment and dementia across research including dozens of systematic reviews and meta-analyses and has been identified as one of the top modifiable risk factors for dementia.[7,11,12]

In addition to general age-related neurodegeneration, several hypotheses exist regarding the mechanism of hearing loss and cognitive dysfunction. One common hypothesis suggests impoverished auditory signals from the impaired cochlea decrease input to the auditory cortex which overtime becomes detrimental to the brain. It theorizes the chronic deafferentation leads to subsequent atrophy of the frontotemporal regions which are responsible for executive functioning and episodic memory, thereby increasing the risk for cognitive impairment. Others hypothesize that increased listening effort can tax the cognitive resources needed for higher level thought processing

(e.g., working memory), and impair cognitive reserve. While separate, many feel the causal relationship between hearing loss and dementia is likely a combination of these theories.[7,12,13]

Identification of hearing loss and potential secondary implications

Regardless of the etiology and exact mechanism of hearing loss, its deleterious effects including struggles to perceive and process speech, loneliness and social isolation, depression, and dementia can have a strong negative impact on one's quality of life and functional mobility.[4,8,9, 10,12,14] Understanding and identifying hearing loss and its potential subsequent health effects provides the necessary rationale for focusing on interventions to mitigate them.

Early identification of hearing loss is key in mitigating secondary complications. Technology now allows those with limited training to screen for hearing loss through tools such as the *hearWHO* app developed by the World Health Organization. This mobile and web-based software application gives the general public an opportunity to identify potential hearing loss and track across time.[1] Specific to the home health setting, the Centers for Medicare and Medicaid Services (CMS) mandates hearing assessment at the Outcome and Assessment Information Set (OASIS) Start of Care (SOC) time point and starting on April 1st, 2026, the Resumption of Care (ROC) time point via Section B, item B0200: Hearing.[15] Once hearing loss is identified, it's essential for the patient to seek a comprehensive hearing test which can be facilitated through the home health therapist.

Hearing exam coverage varies depending on one's insurance. Unfortunately, Medicare Part A will not cover hearing exams solely for the purpose of seeking hearing aids although Part B coverage may if the exam is needed to treat a condition other than hearing loss if medical necessity is supported; the cost of hearing aids is not covered. Some private, employee sponsored, and supplemental insurance plans including Medicare Part C, offer hearing benefits that can be used to cover hearing exams and aids but coverage varies. Those who are dual eligible, having both Medicare and Medicaid, have greater coverage dependent on their state's health plan.[2,16] Veterans who are enrolled in healthcare through the Veterans Administration or have a service-connected hearing loss automatically receive free hearing aids and audiological services; hearing loss is the most common service-connected disability.[4,17] For others who have financial constraints, several organizations offer assistance and are found on The National Council on Aging's website.[16]

In addition to hearing exams, routine cognitive assessments could aid in the early identification of neurodegeneration.[13] Continuing in order in the OASIS, CMS mandates cognitive assessment at the SOC, ROC, and Discharge (DC) timepoints in Section C item C0200-C0500: Brief Interview for Mental Status (BIMS).[15] In addition, many other cognitive screening tools exist and are widely used across the home health setting including the Mini-Cog, St. Louis University Mental Status Exam (SLUMS), and Montreal Cognitive Assessment (MoCA). It is important to note these are not diagnostic tests but rather tools to identify and guide the need for further evaluation by the individual's provider.

The identification of loneliness and/or social isolation is largely reliant on self-report. Although loneliness and clinical depression are distinct entities, perceived loneliness and limited social interaction are associated with depression.[18] While formal screening tools and indices for loneliness and social isolation are beyond the scope of this article, CMS mandates mood assessment at the OASIS SOC, ROC, and DC timepoints. The assessments are in Section D, item D0150: Patient Mood Interview via the Patient Health Questionnaire (PHQ2 to 9) depression screen and item D0700: Social Isolation questionnaire.[15] Both of these OASIS items can open the door for frank honest discussions between the patient and home health clinician and quite possibly be the first identification of such afflictions.

Interventions

Hearing Aids

Once identified, treatment for hearing loss depends on the type and extent of hearing loss. Hearing assistive technology varies widely in complexity and technology requiring a specialist to individualize treatment for optimal benefit.[1,2] Hearing treatment has been associated with improved gait speed, reduced risk of falls, decreased loneliness, and improved social connectedness.[7,8,20,21] Hearing aid use improved activation of auditory and language cortices during auditory tasks and correlated with improved speech recognition, perception, and improved cognitive performance.[7]

Cognitive processes positively impacted by the hearing aids were improved memory, global cognition, and executive functioning.[7] Treatment for hearing loss has found to significantly lower the risk of dementia diagnosis, but hearing aid use in those with pre-existing dementia was not associated with improved cognition thus emphasizing early intervention during the pre-clinical phase of the disease.[7,12] In a 2024 population-based cohort study in Southern Denmark between 2003-2017, hearing aid users had a reduced dementia risk but to a much lesser degree than previously reported. Interestingly, Denmark has among the highest hearing aid usage in the world boasting >50% which is much higher than that in the United States where many longitudinal studies have been conducted. This suggests that hearing aids could be a tool in preventing or delaying dementia onset and if supported through further investigation in future studies, this could explain the lower risk and dementia prevalence in Denmark.[13]

Speech and Language Therapy Services

Because dementia and hearing loss often coexist, caregivers may confuse communication difficulties with cognitive impairment and miss recognizing hearing loss as the problem.[13] A speech therapy referral should be sought with any identified or reported communication deficits and/or cognitive concerns impacting function. Speech therapy services are instrumental in teasing out the underlying complexities and contributing factors to these concerns and are pivotal in developing and maximizing perceptive skills, communication, and linguistic abilities caused by hearing loss. They work alongside audiologists to support technology enhanced hearing to individualize the patient's functional communication needs in their home and community environments.[1,22]

Medical Social Work Services

Another valuable member of the home health care team is social work. As previously noted, hearing exams and coverage vary widely. Social workers are masters at navigating healthcare resources and are pivotal in coordinating care to meet both medical and psychological needs of the patient. They individualize their care plan to provide social and emotional support to our patients and loved ones as they age. This could include exploring funding options to meet our patients' holistic care needs such as resources available to offset the cost of hearing aids and counseling programs to support emotional needs.

Loneliness and Social Isolation

A variety of interventions have been proposed to combat loneliness and social isolation across many populations, which includes those suffering from hearing loss. In addition to hearing treatment, there is evidence for interventions such as animal therapy, cognitive behavioral therapy, counseling, exercise, along with many others.[19] Given the components of loneliness, it is important to note that in the context of these interventions, social exposure alone is often not enough to reduce this distressing experience. The quality of these interactions must also be considered in the context of the person whom the intervention is targeting. For example, in an observational study assessing associations between loneliness and functional outcomes in people with Parkinson's disease participating in community-based exercise classes, 33% of the participants self-reported as lonely. Yet all of these participants were receiving group social exposure at least one or more times per week.[10] This underpins the importance in considering both the amount and quality of social interaction when working to combat loneliness. With respect to the above interventions, there is also efficacy behind more integrative, group-based services that are available through community resources. These types of interventions are especially pertinent during discharge planning, when a patient is often well positioned to receive them.[20] In fact, these types of interventions may have an even stronger impact on loneliness and social isolation if they can be tailored to the user. No one person with hearing loss that is experiencing either loneliness or social isolation will respond in the same way to a given intervention. It is thus pertinent to consider how we can create more integrative, holistic, and community-based interventions that provide a broader range of options for social exposure and interaction in order to best serve the needs of each individual participant.

Conclusion

We, as home health professionals, are well poised to be on the front line of early identification of hearing loss. We have the opportunity to have quality one-on-one interactions with individuals in their own environments, establishing a rapport across time. Often while gaining their trust and assessing for carryover of teaching, the true extent of our patients' hearing loss and potential cognitive impairment can be teased out. These experiences coupled with data collected in the OASIS and insights shared by others in the patient's care team can help to paint a clearer picture of the extent of a patient's potential loneliness, social isolation, functional deficits, and overall quality of life. Through this collaboration, the team can effectively strategize development and adjustment of the patient's plan of care, deploying appropriate resources to address each identified area of concern to intervene and break the cycle of negative effects both.

Statistics show people who have their hearing loss diagnosed wait an average of nine years to seek hearing aids.[4] This underscores the importance of early identification and *timely* rehabilitation for hearing loss and its manifestations, both of which home health physical therapists are well equipped to advocate for. A comprehensive holistic treatment approach to hearing loss can be the catalyst needed for our patients to optimize independent function and achieve meaningful participation in their lives with dignity and improved quality of life.[4]

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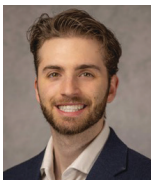

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Home Health Agency Trends Shaping 2026

The home health (HH) sector is entering a defining period marked by rapid advances in technology, increasing regulatory oversight, expanded clinical capabilities, and deeper integration with the broader healthcare system. As organizations adapt to evolving expectations from clients, caregivers, hospitals, and payers, several key trends are shaping what 2026 will look like for home health agencies (HHAs).

1. Technology and AI Become Core Components of Operations

Artificial intelligence (AI) is moving from early-stage experimentation to everyday application within HH organizations. In 2026, the most significant impacts are occurring behind the scenes, improving administrative efficiency and streamlining workflows. AI is now supporting scheduling, referral processing, documentation, and data entry, reducing the manual workload that often pulls clinicians away from higher-value tasks.

These tools enable clinicians to complete documentation faster and more accurately, reducing billing errors and lowering the burden of after-hours recordkeeping. Clinicians can access client histories, care updates, and guidance directly through AI assistants during visits, allowing them to focus on client-facing responsibilities rather than navigating complex software systems.

An emerging extension of these tools is ambient listening—technology that can automatically capture visit details and convert spoken observations into structured documentation. This represents the core purpose of ambient listening: enabling hands-free documentation that reduces administrative burden, supports accuracy, and preserves caregiver attention for client interaction.

As these capabilities advance, they will increasingly function as a "background assistant," ensuring that essential information is captured with minimal effort. This evolution reflects a broader trend in which technology enhances—not replaces—the personal, relationship-driven nature of HH care by removing the friction of repetitive administrative tasks.

2. Interoperability and Data Connectivity Transform Coordination

For decades, fragmented data systems have hindered care coordination across hospitals, payers, and HHAs. In 2026, meaningful progress toward shared data standards is improving the movement of information across settings. As a result, transitions from hospital to home are becoming more seamless, with discharge plans triggering

immediate follow-up actions such as home care intake alerts and coordination workflows.

Greater interoperability also enhances compliance. AI-enabled systems can identify inconsistencies in care plan documentation before they escalate to audit issues. Improved data clarity not only protects agencies against administrative risk but also supports more timely and informed decision-making among care teams and families.

3. Regulatory and Compliance Pressures Continue to Grow

HHAs are facing heightened scrutiny and more complex compliance expectations from both Medicare and Medicaid. Electronic Visit Verification standards, audit readiness, and documentation accuracy are becoming focal points for regulators. As reimbursement models evolve, agencies must adopt tools and processes that ensure consistent accuracy and timely reporting.

AI-driven compliance monitoring is becoming essential in this environment. These systems help agencies maintain audit-ready documentation, detect data discrepancies, and manage regulatory requirements more proactively. AI-enabled systems can identify incomplete Electronic Visit Verification (EVV) entries before they become a problem. Organizations that invest in robust compliance infrastructure—supported by integrated technology—are better positioned to navigate the increased oversight environment of 2026.

4. Workforce Innovation and Retention Remain Central Priorities

HH workforce shortages remain one of the most significant challenges in the HH sector, making workforce stability a core focus for agencies in 2026. Agencies are prioritizing competitive pay, fair scheduling practices, and supportive workplace cultures to prevent burnout and turnover.

Technology is also evolving to better support the HH workforce experience. Instead of requiring clinicians to navigate complex systems, AI tools now provide on-demand access to client information, summarize recent care changes, and reduce documentation burdens. These improvements offer HH clinicians more confidence during visits and reduce administrative tasks that historically contributed to burnout. Agencies that focus on HH workforce support are delivering more consistent care and achieving stronger retention outcomes.

5. Expanded Home-Based Support During the Critical Post-Discharge Window

As hospitals work to prevent avoidable readmissions, HH providers are becoming indispensable during the first 48 hours after discharge. Many readmissions stem from issues such as dehydration, nutrition lapses, medication mismanagement, or fall risk—challenges that home caregivers are uniquely positioned to address.

HH clinicians are essential to support and stabilize patients as they transition into recovery, improving outcomes during the critical first month at home. Improved interoperability and communication with hospitals further strengthen this role by ensuring HHAs receive timely and relevant information.

6. Rising Acuity Levels Require Enhanced Skills and Specialized Services

HHAs are seeing an increase in clients with complex needs, including chronic disease, cognitive decline, mobility challenges, and post-acute recovery requirements. This shift demands expanded training, new service lines, and more sophisticated coordination with healthcare professionals.

Remote patient monitoring tools and wearable technologies are becoming mainstream, enabling earlier detection of clinical changes and reducing the likelihood of emergency interventions. As these technologies integrate more deeply into care workflows, HHAs will be able to manage higher-acuity conditions more effectively while supporting families with clearer data and insights.

7. Private Equity Investment Expands, Elevating the Importance of Agency Identity

Private equity and insurance continue to acquire HHAs at a rapid pace. While consolidation may create efficiencies, it can also introduce pressures that conflict with the personalized, relationship-based nature of home care. Many independent HHAs emphasize that maintaining organizational identity, long-standing values, and caregiver-focused cultures remains essential for quality care and continuity.

As the market becomes increasingly segmented between national platforms and independent providers, the challenge for agencies lies in balancing scale with personal service. Organizations that preserve flexibility and a community-focused orientation may be better positioned to maintain client trust and caregiver stability.

Conclusion

HHAs in 2026 operate in an environment that is more technologically advanced, data-connected, and complex than ever before. At the same time, the heart of home-based care—personalized, relationship-driven support—remains central. Agencies that embrace innovation while strengthening human connection will be best prepared to meet the evolving needs of older adults and families.

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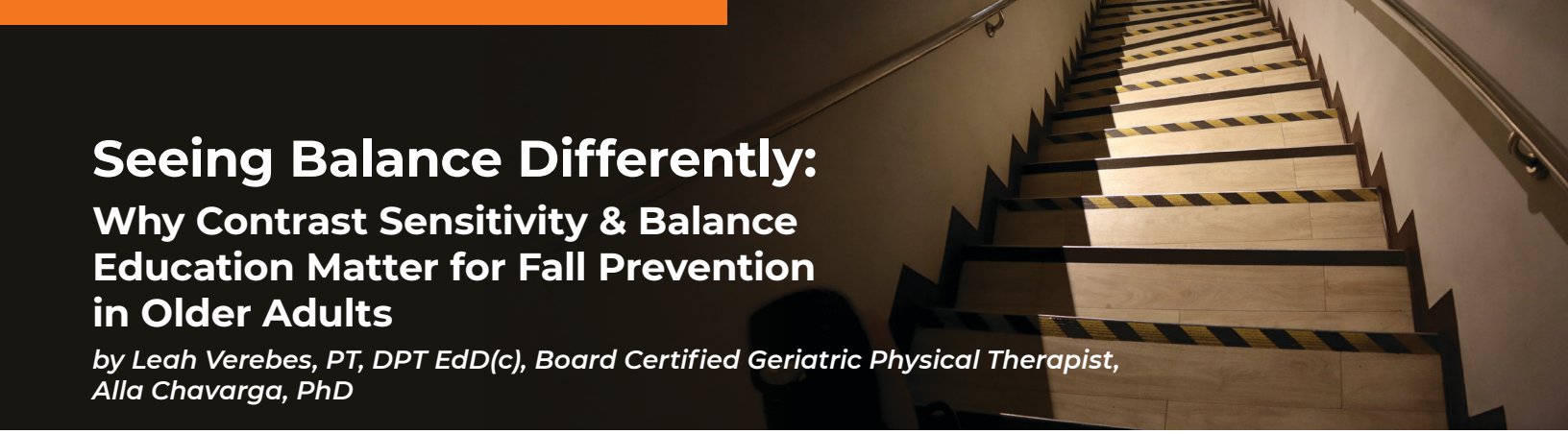

Seeing Balance Differently:

Why Contrast Sensitivity & Balance Education Matter for Fall Prevention in Older Adults

by Leah Verebes, PT, DPT EdD(c), Board Certified Geriatric Physical Therapist, Alla Chavarga, PhD

Falls remain one of the most significant threats to health, independence, and quality of life for older adults. Falling is a leading cause of injury, disability, and mortality among individuals aged 65 years and older, often resulting in hospitalization, functional decline, and long-term loss of independence.[1] For older adults, a fall is more than a physical injury—it marks a critical turning point that often leads to fear of movement, reduced activity participation, and progressive social isolation. Fall prevention is therefore crucial for not only maintaining physical safety but for preserving the dignity and autonomy of the older adult population.

From a physical therapy perspective, traditional fall prevention protocols have emphasized musculoskeletal strength, mobility limitations, environmental hazards, and medication management. While these factors are undeniably essential, contemporary perspectives increasingly recognize that balance is more than a purely mechanical endeavor. Maintaining balance is a complex sensory-motor process that depends on the integration of multiple physiological systems, particularly the motor, visual, vestibular, and somatosensory systems.

Balance is not just Musculoskeletal

Balance is often described in terms of strength, posture, or reaction time, but maintaining upright stability requires continuous interpretation of sensory information. The body relies on multiple streams of input. Proprioception provides awareness of joint position and movement. The vestibular system detects head motion and orientation. Vision provides information about environmental layout, spatial relationships, and movement cues.

These systems do not operate independently. Instead, the central nervous system constantly integrates and reweighs sensory input depending on environmental conditions. For example, when walking in a dark environment, visual input becomes less reliable, and the body must rely more heavily on proprioceptive and vestibular feedback. Conversely, when standing on an unstable surface, visual information may become the dominant source of orientation. Age related physiological changes can disrupt this delicate balance of sensory integration. Declines in proprioception, vestibular responsiveness, and central processing speed are common with aging.[2,3,4] However, visual changes are among the most prevalent and impactful alterations affecting postural control. When visual information is degraded or inefficiently processed, the brain compensates by increasing reliance on other sensory systems,[5] a strategy that is often insufficient, particularly in complex or unpredictable environments. As a result, visual impairment can directly increase fall risk, reduce movement confidence, and limit participation in daily activities.

Traditional Vision Assessment

Clinical assessment of visual function is often limited to measures of depth perception (stereopsis) and visual acuity.[6] Acuity testing evaluates the visual system's ability to resolve fine detail under high contrast conditions, typically using standardized eye charts that present black letters against a white background. However, everyday mobility rarely occurs under ideal visual conditions. Patients more commonly find themselves having to detect subtle variations in brightness, recognize objects in dim lighting, and navigate visually complex environments. An individual may demonstrate normal acuity and have intact depth perception yet still struggle to detect subtle edges, floor transitions, or obstacles. This gap highlights an underrecognized contributor to fall risk: contrast sensitivity.

Contrast Sensitivity

Contrast sensitivity provides a functional measure of visual capability that is especially relevant to navigating the environment. Rather than measuring the ability to see small details at maximum contrast (black against white), contrast sensitivity refers to how effectively an individual distinguishes patterns that differ only slightly in brightness from their background. Contrast sensitivity is often measured for patterns of varying size (large and small objects) and contrast intensity (faint and bold objects),[7] providing insight into how visual information is processed across a range of spatial scales that more closely resemble real-world conditions. For example, an individual with poor contrast sensitivity may fail to distinguish the edge of a rug from a floor that is similar in brightness or even miss a large vehicle moving towards them when it appears faint on a foggy day.

Particularly relevant is sensitivity to large-scale patterns of a visual scene. Large, coarse spatial components of a scene convey broad structural features of the environment, such as shape, orientation, and movement.[8] These cues allow individuals to quickly interpret the layout of a room, detect motion, and maintain awareness of body position relative to their surroundings. These large-scale visual cues are particularly important for maintaining spatial orientation and postural stability during movement. When this processing is impaired, visual interpretation may become slower and more cognitively demanding. Everyday tasks such as walking while talking, navigating crowded spaces, or responding to unexpected obstacles require greater mental effort, increasing the likelihood of delayed or inappropriate motor responses.

In this way, contrast sensitivity describes a functional visual capacity that can influence movement safety independently of visual acuity. Importantly, in many common ocular disorders associated with aging, contrast sensitivity declines earlier than visual acuity.[9]

Case Example: Functional Vision and Fall Risk in the Home

An 82-year-old individual receiving home health physical therapy following hospitalization for generalized weakness reports "tripping

over nothing" when walking from the bedroom to the bathroom at night. Standard balance testing reveals only mild impairment. Strength and gait speed are within expected limits for age. During a home safety assessment, the therapist observes dim hallway lighting, low-contrast flooring transitions, and a small step down into the bathroom that blends visually with the surrounding surface. The patient hesitates before stepping and reaches excessively for support surfaces. When lights are increased and contrasting tape is placed along the step edge, stepping becomes more confident and stable. Further questioning reveals difficulty judging distances when reaching for countertops and navigating stairs. Referral for vision evaluation identifies reduced contrast sensitivity and impaired depth perception. Intervention focuses on environmental contrast enhancement, lighting optimization, and task-specific training emphasizing visual scanning and movement planning. Caregiver education includes nighttime pathway lighting and removal of visually ambiguous floor coverings. No additional falls occur during the episode of care. This example illustrates how visual processing limitations may not appear in standardized testing but become evident in functional home environments.

Clinical Implications for Home Health Physical Therapy Practice

Home health physical therapists are uniquely positioned to recognize the interaction between visual function and mobility because they evaluate patients in the very environments where falls most often occur. Unlike artificially lit and sparsely furnished clinic settings, the home environment may have variable lighting conditions, uneven flooring, and cluttered walkways that require careful navigation using rapid visual processing and spatial judgment. While traditional balance assessments provide valuable information, they may not fully capture how an array of visual limitations influence mobility during everyday activities in these kinds of challenging spaces.

Age-related changes in visual processing can significantly affect movement safety within the home. Reduced contrast sensitivity may impair the ability to detect low-contrast hazards such as step edges, floor transitions, cords, or throw rugs, while impaired stereopsis can affect depth judgment during transfers, stair negotiation, and estimation of distance for reaching tasks. These challenges may not be immediately apparent during standardized testing but can become evident in difficulties with functional activities.

Incorporating awareness of functional vision into home health practice can enhance fall risk assessment and guide targeted intervention. At the evaluation level, clinicians may observe mobility under varied lighting conditions, during obstacle negotiation, or while patients perform everyday tasks that require multitasking or a substantial cognitive load. At the patient education level, home health practitioners play an important role by translating clinical insight into practical safety strategies that are easy to understand and implement. When patients and caregivers understand how visual changes influence balance, they are better able to recognize hazards, improve lighting, reduce clutter, and enhance visual contrast in appropriate locations throughout the home.

Recognizing visual contributions to balance can also support timely referral and interdisciplinary collaboration. Optometrists, ophthalmologists, and rehabilitation professionals each contribute valuable expertise in addressing visual and mobility limitations. Coordinated care helps ensure that visual deficits are addressed alongside movement impairments rather than treated as separate concerns. By integrating functional vision considerations into assessment, intervention, and education, home health physical therapists can better address the real-world demands that shape mobility and fall risk in everyday living.

Clinical Strategies for Home Health Physical Therapists

Home health clinicians can incorporate functional vision awareness into routine care through the following strategies:

Screen differently

- Observe mobility under varied lighting conditions
- Assess performance during environmental transitions
- Watch for hesitation before stepping or reaching
- Note reliance on touch before movement initiation

Assess real-world navigation

- Bedroom to bathroom pathways
- Stair and threshold transitions
- Kitchen mobility during task performance
- Nighttime mobility patterns

Educate and modify

- Improve lighting consistency
- Increase visual contrast at edges and steps
- Reduce clutter and visual noise
- Encourage regular eye examinations

Collaborate

- Refer for vision evaluation when functional signs are present
- Communicate visual safety needs to caregivers
- Coordinate interdisciplinary fall prevention planning

Environmental Modifications to Support Functional Vision

Home modification strategies that support visual processing can significantly improve safety:

Lighting

- Increase ambient lighting in hallways and stairways
- Add nightlights for bathroom access
- Reduce glare from windows or reflective surfaces

Contrast enhancement

- Apply contrasting tape to step edges
- Use contrasting toilet seats or grab bars
- Ensure furniture contrasts with flooring

Pathway clarity

- Remove low-contrast rugs or mats
- Organize cords and small obstacles
- Maintain consistent furniture placement

Depth cues

- Mark transitions between flooring surfaces
- Improve visibility of thresholds
- Highlight stair rails and first/last steps

Home Visit Observation Checklist

During each home visit, clinicians can observe the following indicators of functional visual processing challenges:

- Hesitation before stepping or turning
- Difficulty judging distances when reaching
- Increased instability in dim lighting
- Reliance on walls or furniture for guidance

- Misjudging step height or floor transitions
- Reduced scanning of the environment
- Fearful movement in visually complex spaces

Key Takeaways

- **Visual acuity alone does not capture functional vision.**
  Everyday mobility depends on visual abilities other than just visual acuity. One such measure is contrast sensitivity—the ability to detect objects when they differ only slightly in brightness from their background. Impaired contrast sensitivity can make it difficult to detect low-contrast hazards like step edges, floor transitions, or obstacles that appear faint against their background, even when standard eye chart performance appears normal.

- **Fall prevention requires understanding how patients see their environments**
  Balance depends on the integration of visual, vestibular, and somatosensory input. In home health settings, patients navigate complex and variable environments where lighting, clutter, and surface properties can challenge visual processing and upstream motor planning. Taking contrast sensitivity into consideration during assessment can help clinicians better understand and address mobility limitations and fall risk.

- **Targeted education and environmental modification can improve safety.**
  When clinicians recognize visual limitations, practical strategies can support safer mobility. Improving lighting, reducing clutter, and enhancing contrast at key locations such as stair edges, doorways, light switches, grab bars, and floor transitions can help patients better interpret their surroundings and move with more confidence in the home.

Who We Are

The Vision and Balance Education (ViBE) Initiative is an interdisciplinary team based in the Doctor of Physical Therapy (DPT) Program at Touro University's School of Health Sciences. We are dedicated to advancing fall prevention through the integration of vision science and physical therapy. ViBE is led by Drs. Leah Verebes, Doctor of Physical Therapy and board-certified geriatric clinical specialist and Dr. Alla Chavarga, a visual neuroscientist and psychophysicist. Together, they work alongside a rotating team of student DPT researchers.

As part of the ViBE team, students gain hands-on experience in balance assessment, community-based practice, and patient education while applying their coursework in neuromuscular disorders, movement science, geriatrics, research methods, and statistical analysis. In partnership with community organizations, the team provides fall prevention programming, educational materials, and in-service training focused on aging vision and mobility. Students contribute directly to an ongoing funded interdisciplinary research program, allowing them to engage in meaningful scholarship while serving older adults in the community. To learn more about ViBE, please visit https://shs.touro.edu/news/stories/to-enhance-quality-of-life-for-nycs-underserved-elderly-dpt-students-vibe.php

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In addition to her academic and clinical work, Dr. Verebes is actively involved in educational research and scholarship, serving as Principal Investigator on several ongoing studies and contributing to peer-reviewed and popular publications on aging, physical therapy, and wellness. Her research interests include geriatric rehabilitation, fall prevention, student development, and visual-motor integration in balance and mobility. She is a frequent presenter at national conferences and currently serves as Chair of Continuing Education and Social Media Engagement for the Touro University DPT Program. Dr. Verebes is a long-standing member of the American Physical Therapy Association and is actively engaged in both the Geriatrics and Education Sections. Contact information – 845 558 8325, Leah.Verebes@touro.edu, 3 Times Square NY NY 10036

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Preparing the Next Generation of Physical Therapists for the Expanding Home Health Workforce

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Aligning DPT Education with Workforce Reality, Value-Based Care, and Fall Prevention Outcomes

Home health physical therapy is no longer a niche or late-career practice setting. Rapid demographic shifts, healthcare reform, and value-based payment models have accelerated the demand for rehabilitation services delivered in the home.[1-3] Simultaneously, increasing numbers of newly licensed physical therapists are entering home health earlier in their careers.

This shift raises an urgent educational question: Are Doctor of Physical Therapy (DPT) programs adequately preparing graduates for autonomous, safety-critical practice in complex home environments?

Recent objective motion capture data demonstrate that geriatric simulation suits (GSS), including low-cost institution-constructed models as illustrated in Image 1, produce measurable biomechanical impairments during functional tasks. These findings support the structured integration of validated simulation-based education into DPT curricula to improve readiness for home health practice.

Image 1.

Aligning educational strategy with workforce need is consistent with APTA Vision 2030, which calls for physical therapists to optimize movement, prevent injury, and transform society through value-based care.[4]

Aging Demographics and Care Migration to the Home

By 2034, adults aged 65 and older will outnumber children for the first time in U.S. history.[1] The majority of older adults express a desire to age in place, increasing reliance on home-based healthcare services.[2]

CMS payment reform, including the Patient-Driven Groupings Model (PDGM) and Home Health Value-Based Purchasing (HHVBP), has intensified focus on quality metrics, rehospitalization rates, and functional outcomes in the home.[3,5]

Home health physical therapists are central to:

- Fall prevention
- Functional independence
- Hospital readmission reduction
- Safe aging-in-place initiatives

Unlike inpatient environments, home health clinicians frequently practice independently without immediate peer consultation. Clinical reasoning, environmental hazard assessment, and mobility safety judgment must be highly developed at entry-level practice.

Falls: A Central Outcome in Home Health

Falls remain a leading cause of injury and death among older adults.[6] In 2018 alone, fall-related medical costs exceeded $50 billion in the United States.[7]

In the home health setting, therapists directly influence:

- OASIS functional mobility measures[8]
- Hospitalization risk[9]
- Emergency department utilization[6]
- HHVBP performance metrics[5]

Activities such as sit-to-stand, turning, stair negotiation, and dynamic balance represent high-risk tasks.[10] Subtle biomechanical impairments during these tasks significantly increase fall risk.[11]

Preparing clinicians to recognize and manage these impairments is therefore not merely educational — it is a value-based care imperative.

The Educational Gap: Knowledge Without Embodied Understanding

DPT curricula rigorously teach biomechanics, pathology, and intervention design. However, many students lack lived experience of:

- Decreased joint mobility
- Kyphotic posture
- Impaired proprioception
- Visual compromise
- Fatigue during transitional movements

Geriatric simulation suits have historically been used to foster empathy and awareness. Studies demonstrate improvements in student attitudes toward older adults following simulation exposure.[12,13] However, most literature relies on subjective measures such as empathy scales.

For home health preparation, subjective awareness is insufficient. Objective biomechanical validation is necessary to ensure simulation reflects true movement impairment. A geriatric simulation suit is designed to replicate common age-related physiological and functional impairments by imposing external constraints on movement, sensation, and postural control. These suits typically incorporate weighted components, joint restrictors, visual impairment goggles, and dexterity-limiting devices to simulate declines in strength, flexibility, balance, coordination, and vision. Collectively, these elements aim to approximate the physical challenges associated with aging, allowing users to experience functional limitations during tasks such as walking, transfers, and activities of daily living.

Objective Validation of Simulation-Based Education

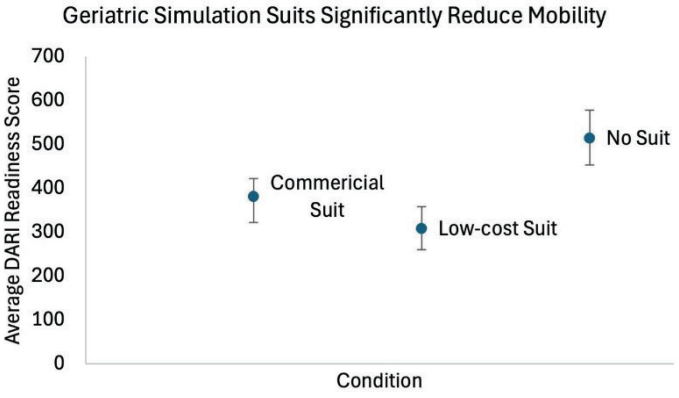
In a controlled crossover study of 29 DPT students (at the time of CSM 2026 submissions), participants performed functional movements representative of everyday activities within the home environment that may be limited in the geriatric population. These included single-leg stance, standing hip abduction, forward and lateral trunk flexion, squatting, trunk rotation, cervical flexion, and upper extremity movements such as shoulder flexion, horizontal abduction, internal and external rotation. These movement patterns are foundational to activities of daily living, including transfers, reaching, dressing, and maintaining balance during mobility tasks. Impairments in these movements are closely associated with increased fall risk, reduced functional independence, and greater likelihood of hospitalization in the home health setting. Testing was done under three conditions:

1. No suit
2. Commercial geriatric simulation suit ($3,499)
3. Low-cost, institution-constructed suit ($300)

Markerless motion capture technology generated composite movement quality scores. These findings provide objective evidence that simulation-based impairments closely approximate functional limitations observed in older adults (see Figure 1).

- Both suits significantly impaired movement compared to baseline.
- The low-cost suit produced even greater measurable restriction than the commercial model.
- No session-order effects were observed.

Figure 1. Average DARI movement quality scores across testing conditions (no suit, commercial geriatric simulation suit, and low-cost simulation suit). Lower scores indicate greater movement impairment. Error bars represent standard deviation (n = 29).



As demonstrated in Figure 1, simulation suits produce objective biomechanical changes and not merely perceived difficulty. This distinction is critical. Research demonstrates that impaired sit-to-stand performance, reduced gait speed, and balance deficits strongly predict falls and functional decline.[10,11,14] The DARI movement quality score is a composite measure derived from markerless motion capture that integrates joint mobility, symmetry, and movement efficiency across functional tasks. Lower scores represent greater biomechanical impairment and reduced functional movement capacity.

Simulation that objectively replicates these impairments may strengthen:

- Clinical guarding strategies
- Environmental risk awareness
- Task progression judgment
- Fall-risk identification accuracy

Educational Equity and Access

Commercial geriatric simulation suits can be cost-prohibitive. Limited budgets may prevent broad curricular integration. Demonstrating that low-cost, institution-built suits produce measurable impairments, they:

- Promote equitable access across programs
- Encourage curricular standardization
- Reduce reliance on expensive commercial products
- Support innovation within resource-limited institutions

If we expect new graduates to succeed in home health practice, simulation should not be restricted to well-funded programs.

Alignment With APTA Vision 2030

APTA Vision 2030 emphasizes:

- Movement optimization
- Prevention and wellness
- Health equity
- Value-based care transformation[4]

Home health physical therapists embody these priorities daily. Strengthening simulation-based experiential learning aligns with Vision 2030 by:

- Enhancing movement analysis competency
- Supporting injury prevention (falls)
- Improving clinical decision-making
- Preparing graduates for autonomous, community-based practice

Educational strategy must evolve alongside practice demands.

Call to Action for Academic Leaders and Clinical Partners

To align DPT education with workforce realities and value-based care priorities, the profession should consider:

1. **Integrating Validated Geriatric Simulation Modules:** Embed structured simulation within neuromuscular, geriatrics, and functional movement coursework.
2. **Incorporating Objective Movement Assessment:** Where feasible, utilize motion analysis or standardized movement scoring tools to reinforce biomechanical understanding.
3. **Embedding Home Health Case Scenarios Early:** Introduce environmental hazard assessment and autonomous decision-making scenarios before terminal clinical

rotations. Case-based learning should also incorporate additional components central to home health physical therapy practice, including medication reconciliation, vital sign assessment and interpretation, and comprehensive evaluation of multiple body systems. These factors are critical, as they may directly influence both fall risk and risk of hospitalization. Embedding these elements within case scenarios promotes clinical reasoning, prioritization, and interprofessional collaboration, better reflecting the complexity of real-world home health practice and supporting development of holistic, patient-centered care strategies.

4. **Strengthening Academic–Home Health Partnerships:** Collaborate with agencies to align curricular preparation with real-world HHVBP and OASIS demands.
5. **Conducting Longitudinal Research:** Examine whether simulation exposure improves:
   - Fall-risk identification accuracy
   - OASIS functional scoring reliability
   - Early-career clinical decision-making
   - Patient-level fall outcomes

As healthcare delivery continues shifting toward the home, preparation must begin in the classroom.

Conclusion

The rapid expansion of home health physical therapy demands that DPT programs prepare graduates for autonomous, safety-critical environments. Falls remain a major driver of morbidity, cost, and rehospitalization.

Objective validation of geriatric simulation tools, particularly affordable models, supports their integration into PT curricula nationwide. Strengthening experiential, movement-based education may improve clinical reasoning, enhance patient safety, and support value-based performance outcomes. The future of home health begins with how we educate today's students.

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