

Optimising Functional Independence in Skilled Nursing Facilities: An Interdisciplinary Mobility Quality Improvement Program Development and Implementation Protocol

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Abstract

Background: Functional mobility decline and falls affect approximately 50% - 75% of skilled nursing facility residents annually, with 10% - 20% resulting in serious injury. These events are associated with increased morbidity, prolonged length of stay, rehospitalization, and rising healthcare costs. **Objective:** This manuscript describes the development and implementation protocol for an interdisciplinary mobility quality improvement (QI) program designed to integrate structured mobility practices into routine skilled nursing facility care. **Methods:** Using Plan-Do-Study-Act quality improvement methodology guided by the Model for Improvement, this protocol was developed for skilled nursing facilities serving approximately 80 - 150 residents. The program integrates physical therapy, occupational therapy, nursing, restorative care, and medical oversight through structured needs assessment and stakeholder engagement. **Implementation Framework:** The protocol specifies phased implementation, accountability structures, fidelity monitoring, and sustainability strategies. **Conclusion:** This protocol provides a scalable, systems-level framework for addressing mobility decline in skilled nursing facilities.

Keywords

Skilled Nursing Facility, Functional Mobility, Fall Prevention, Quality Improvement, Interdisciplinary Care, Rehabilitation

1. Introduction

Functional mobility is a central determinant of independence, safety, and quality of life for residents of skilled nursing facilities (SNFs). Mobility limitations con-

tribute significantly to adverse outcomes in this population. Between 50% and 75% of long-term care residents experience at least one fall annually, with 10% - 20% sustaining serious injury. Approximately 30% -40% of post-acute SNF residents demonstrate measurable functional decline within the first 90 days of admission. In the United States alone, fall-related injuries among older adults generate an estimated \$50 billion in annual healthcare costs [1].

Although rehabilitation services are routinely available in SNFs, mobility promotion is frequently fragmented and therapy-centric, with inconsistent reinforcement of therapy-developed mobility plans during nursing care hours when residents spend most of their day. This fragmentation limits carryover of therapeutic gains and undermines fall prevention efforts.

Interdisciplinary and ecological models of care emphasize interactions between individual capacity, environment, and organizational systems. Applying these principles requires structured protocols that embed mobility into daily care routines across disciplines [2] [3].

While existing SNF mobility programs have demonstrated feasibility [4] [5], most lack comprehensive operational frameworks for sustainable implementation. This protocol advances prior work through three key innovations: First, it provides a structured implementation framework specifying accountability mechanisms and workflow integration strategies adaptable to diverse SNF contexts. Second, it establishes explicit fidelity monitoring with predefined adherence thresholds and corrective action pathways. Third, it integrates implementation science principles with quality improvement methodology to support sustained organizational behavior change. These elements address critical gaps in translating evidence-based mobility practices into routine SNF care delivery.

2. Methods

2.1. Quality Improvement Framework

This protocol followed Plan-Do-Study-Act (**PDSA**) principles within the Model for Improvement framework, emphasizing iterative testing, stakeholder engagement, and integration into existing workflows.

2.2. PDSA Cycle Operationalization

PDSA cycles guide iterative program refinement. An illustrative cycle addressing evening falls demonstrates the methodology:

Plan Phase: Based on needs assessment findings showing 42% of falls during evening shifts, the team hypothesized that implementing a structured pre-bedtime mobility routine would reduce evening falls by $\geq 25\%$ within 4 weeks. Target population: all ambulatory residents on Units A and B ($n = 30$). Intervention: 15-minute supervised walking session at 6:30 PM daily. Success criteria: ≤ 3 evening falls over 4 weeks (baseline: 12 falls/month).

Do Phase: Intervention implemented on Unit A ($n = 15$ residents) for 4 weeks, with Unit B serving as concurrent comparison. Staff documented participation

rates, barriers encountered, and fall incidents using standardized forms.

Study Phase: After 4 weeks, Unit A recorded 2 evening falls (83% reduction from baseline) with 78% resident participation rate. Staff reported time constraints as primary barrier. Unit B recorded 11 evening falls (no change from baseline).

Act Phase: Based on positive results, the team adopted the intervention facility-wide with workflow modifications (reassigning certified nursing assistant tasks during 6:00-7:00 PM to accommodate mobility routine). New target: maintain ≤ 3 evening falls/month across all units while improving participation to $\geq 85\%$. Next PDSA cycle focuses on addressing remaining time barriers through schedule restructuring and identifying optimal staffing patterns.

2.3. Setting and Organizational Context

The protocol is intended for SNFs serving approximately 80 - 150 residents, including post-acute and long-term care populations. Staffing typically includes physical therapists (PT), occupational therapists (OT), nursing staff, restorative care providers, and medical oversight.

2.4. Needs Assessment

A 12-month retrospective review (January-December 2024) of fall incident reports, chart review, environmental walk-throughs, and comprehensive staff engagement informed protocol development. Staff engagement included: 1) semi-structured interviews with 15 frontline staff members (physical therapists, occupational therapists, nurses, and certified nursing assistants) to explore workflow barriers and mobility integration opportunities, and 2) a quantitative staff confidence survey distributed to all direct care staff (n = 23 responses, 82% response rate) to assess perceived competence in mobility assistance and fall prevention (Table 1).

Table 1. Needs assessment summary findings.

Domain	Data Source	Key Findings
Fall Patterns	Incident reports (n = 150)	68% during transfers; 42% during evening shifts
Documentation	Chart review (n = 50)	Inconsistent ambulation documentation in 64%
Staff Confidence	Staff survey (n = 23)	42% reported limited confidence assisting mobility
Environment	Walk-through assessment	Inadequate lighting in 35% of rooms

Note: SNF = Skilled Nursing Facility; n = sample size. Data collected January-December 2024. Staff Survey Methodology.

The staff confidence survey utilized a 5-point Likert scale (1 = very uncomfortable to 5 = very comfortable) assessing perceived competence in mobility assis-

tance, knowledge of fall prevention strategies, and interdisciplinary communication effectiveness. Survey items were developed based on themes identified in the qualitative interviews. The survey was distributed via secure online platform (REDCap) with anonymous response collection. Results informed targeted education content and role clarification within the program design.

3. Program Design

Table 2 outlines the roles, responsibilities, and documentation requirements for each discipline involved in program implementation.

Table 2. Interdisciplinary roles and responsibilities.

Discipline	Primary Responsibilities	Documentation
Physical Therapy	Strength and balance assessment Exercise prescription	Weekly progress notes Functional measures
Occupational Therapy	ADL-integrated mobility Environmental assessment	Daily participation logs
Nursing	Daily ambulation reinforcement Transfer assistance	Shift mobility logs Fall incident reports
Restorative Care	Scheduled ambulation sessions	Distance tracking
Medical Oversight	Medical clearance Medication review	Mobility orders Care plan updates

Note: ADL = Activities of Daily Living.

Figure 1 illustrates the interdisciplinary team structure and communication pathways central to program implementation.

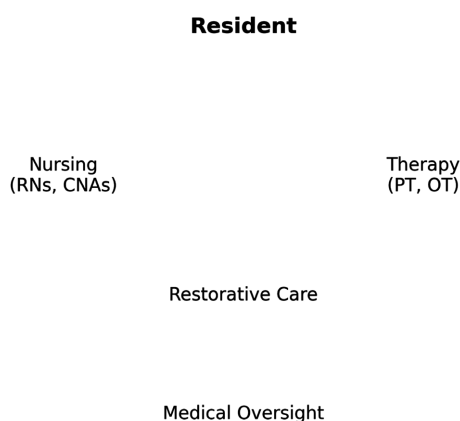


Figure 1. Interdisciplinary team structure and communication flow. This illustrative workflow model depicts role relationships and information exchange pathways within skilled nursing facility setting. The model shows bidirectional communication between all disciplines with the resident at the center of care. Weekly interdisciplinary care conferences serve as the formal communication hub, with daily informal communications occurring through electronic health record documentation and verbal handoffs. PT = physical therapy; OT = occupational therapy; RN = registered nurse; CNA = certified nursing assistant; MD = physician medical director.

The program integrates strength training, balance activities, standardized ambulation protocols, environmental modifications, and interdisciplinary staff education.

3.1. Active Intervention Components

Strength Training: 1) Exercises: Progressive resistance targeting lower extremities (quadriceps, hip abductors, ankle dorsiflexors) and core stability. 2) Initial prescription: 2 - 3 sets of 10 - 12 repetitions, 3 times weekly during therapy sessions. 3) Progression: Increase resistance when resident completes 12 repetitions with good form for 2 consecutive sessions. 4) Equipment: Resistance bands (Theraband), ankle weights (0.5 - 2 kg), parallel bars. 5) Contraindications: Acute pain, uncontrolled hypertension (BP > 180/100), acute cardiac symptoms.

Balance Activities: 1) Exercises: Static and dynamic balance including narrow base standing, single-leg stance (eyes open/closed), tandem walking, obstacle navigation. 2) Duration: Minimum 10 minutes per therapy session, 3 - 5 times weekly. 3) Progression: Based on Berg Balance Scale scores—advance when resident maintains positions for target durations (e.g., single-leg stance from 5 to 30 seconds). 4) Safety: All balance activities performed with appropriate guarding and equipment.

Standardized Ambulation Protocols: 1) Initial target: 50 - 100 feet, 2 - 3 times daily during nursing care. 2) Goal target: 300+ feet per session by week 4. 3) Assistive device selection: Based on physical therapy assessment (walker, cane, supervision only). 4) Supervision levels: Contact guard, stand-by assist, or supervision based on fall risk and functional status. 5) Environmental routes: Predefined hallway circuits marked with distance markers. 6) Nursing implementation: Ambulation during ADL transitions (to bathroom, to dining room).

Environmental Modifications: 1) Lighting: Minimum 100 lux in hallways and resident rooms. 2) Fall hazards: Remove clutter, secure loose rugs, clear floor surfaces. 3) Grab bars: Install near toilets and showers per occupational therapy recommendations. 4) Flooring: Non-slip surfaces in high-traffic areas. 5) Visual cues: Clearly marked step edges with contrasting colors. 6) Assessment: Occupational therapists conduct quarterly environmental audits using standardized checklist

Staff Education: 1) Initial training: 4-hour didactic session plus hands-on skills validation. 2) Content: Fall prevention principles, safe transfer techniques, mobility equipment use, documentation requirements. 3) Competency validation: Demonstrate safe transfers and proper equipment use before independent practice. 4) Refreshers: Quarterly 1-hour sessions addressing common challenges identified through incident review. 5) Resources: Laminated quick-reference cards at nursing stations.

3.2. Resident Eligibility and Mobility Tier Assignment

Inclusion Criteria: 1) Age \geq 55 years. 2) Documented mobility limitations (requires assistance with ambulation or transfers). 3) Medical clearance from attending physician. 4) Expected length of stay \geq 14 days.

Exclusion Criteria: 1) Unstable medical conditions (uncontrolled heart failure, unstable angina, active infection with systemic symptoms). 2) Recent lower extremity fracture (<6 weeks) with weight-bearing restrictions. 3) Complete non-weight-bearing status. 4) Severe cognitive impairment precluding participation (Mini-Mental State Examination score < 10). 5) Hospice or comfort-care-only status. 6) Explicit resident or family refusal documented in medical record.

Three-Tier Mobility Assignment System:

Tier 1 (High Intensity): 1) Criteria: Ambulatory with supervision or minimal assistance, no falls in past 30 days, cognition sufficient for instruction following (able to follow 2-step commands). 2) Program components: Physical/occupational therapy 5×/week, nursing-supervised ambulation 3×/day, group mobility activities. 3) Goals: Increase ambulation distance by 50%, improve balance confidence, achieve independent mobility.

Tier 2 (Moderate Intensity): 1) Criteria: Ambulatory with moderate assistance OR recent fall history (≥1 fall in past 30 days) OR mild-moderate cognitive impairment. 2) Program components: Physical/occupational therapy 5×/week, nursing-supervised ambulation 2×/day, enhanced environmental modifications, medication review for fall-risk medications. 3) Goals: Stabilize functional status, reduce fall risk, improve transfer safety.

Tier 3 (Foundation Building): 1) Criteria: Requires substantial/maximal assistance for transfers, limited endurance (<100 feet ambulation), multiple comorbidities limiting participation. 2) Program components: Physical/occupational therapy 3×/week focusing on seated strength and supported standing, nursing-assisted transfers emphasizing technique reinforcement, restorative care for basic mobility maintenance. 3) Goals: Maintain current function, prevent further decline, improve transfer safety.

Tier Assignment Process: 1) Physical therapist conducts initial mobility assessment within 48 hours of admission. 2) Assessment includes: ambulation distance, assistive device needs, transfer ability, fall history, cognitive screening, medical comorbidities. 3) Interdisciplinary team assigns tier during weekly care conference. 4) Residents reassessed monthly for tier advancement or modification. 5) Medical clearance required before advancing to higher intensity tier.

4. Implementation Framework

Implementation is structured to support gradual integration and staff adaptation (Figure 2).



Figure 2. Four-phase implementation timeline. This recommended phased approach for program initiation shows approximate durations and key milestones for a mid-sized (80 - 150 bed) skilled nursing facility. Timeline is adaptable based on facility size, baseline QAPI maturity, and readiness assessment results. Phases may overlap depending on implementation pace and early successes. Smaller facilities may compress timeline; larger facilities or those with limited QI infrastructure may extend phases.

4.1. Implementation Fidelity Monitoring and Accountability

Fidelity Checklist (Weekly Audit): 1) Assessment completion: $\geq 90\%$ of residents assessed within designated timeframes. 2) Documentation quality: $\geq 85\%$ of planned mobility sessions documented with required data fields. 3) Interdisciplinary communication: 100% of residents discussed at weekly care conferences. 4) Staff technique: $\geq 90\%$ accuracy during spot checks of transfer techniques. 5) Environmental safety: 100% of critical safety items maintained (lighting, grab bars, clear pathways).

Audit Process: 1) Who: Rehabilitation director or designee. 2) Frequency: Weekly audits reviewing random sample of 10 resident charts. 3) Methods: Chart review, direct observation of 3 - 5 mobility sessions, inspection of 2 - 3 resident rooms per unit. 4) Reporting: Findings presented at weekly quality improvement meetings.

Performance Thresholds and Corrective Actions:

Minor Deviations (85% - 89% compliance): 1) Response: Verbal coaching provided to involved staff. 2) Follow-up: Re-audit within 1 week.

Moderate Deviations (70% - 84% compliance): 1) Response: Mandatory focused re-training for affected staff. 2) Duration: Direct supervision for 2 weeks. 3) Investigation: Workflow barrier assessment. 4) Follow-up: Weekly monitoring until $\geq 90\%$ compliance achieved.

Major Deviations ($< 70\%$ compliance): 1) Response: Immediate workflow redesign. 2) Investigation: System-level barrier analysis (staffing, resources, competing demands). 3) Actions: Consider staffing adjustments, protocol modifications, or phased implementation. 4) Escalation: Report to facility quality committee for additional support.

Staff Feedback Mechanisms: 1) Monthly all-staff meetings: Review aggregate fidelity data (no individual identification), celebrate successes, problem-solve barriers collaboratively. 2) Anonymous suggestion box: Located in break rooms for confidential feedback. 3) Quarterly staff surveys: Assess ongoing barriers, satisfaction with program, implementation support needs. 4) Individual feedback: Quarterly performance summaries comparing documentation completeness and session participation rates to unit averages (delivered privately by supervisor).

4.2. Resource Requirements and Sustainability Planning

Staff Time Requirements: 1) Initial training: 4 hours per staff member (one-time investment, total ~240 hours for 60-person facility). 2) Ongoing therapy time: 30 - 45 minutes per resident per session, 3 - 5 times weekly (within existing therapy allocations). 3) Nursing ambulation time: 15 - 20 minutes per resident, 2 - 3 times daily (integrated into existing care routines during ADL assistance). 4) Administrative coordination: 5 hours weekly for rehabilitation director (care conferences, audit review, staff support). 5) Fidelity auditing: 3 hours weekly for rehabilitation director (chart review, observations, environmental checks).

Equipment Investment: Basic equipment totaling approximately \$2000 - \$3500

per 80-bed facility: 1) Resistance bands and weights: \$500 - \$800. 2) Parallel bars (if not already present): \$800 - \$1200. 3) Environmental modifications: \$500 - \$1000 (additional handrails, lighting improvements). 4) Documentation resources: \$200 - \$300 (training materials, laminated reference cards, audit forms).

Sustainability Strategies:

1) Onboarding Integration: Embed mobility program training into new employee orientation (ongoing cost: 1 hour per new hire).

2) Champion Model: Designate 2 - 3 unit-based mobility champions per floor receiving advanced training and responsible for peer mentoring (reduces centralized coordination burden).

3) Routine Integration: Position mobility activities as enhancements of existing care processes rather than added tasks (ambulation during bathroom trips, strength exercises during ADL sessions).

4) Electronic Documentation: Transition to EHR templates after initial 6-month pilot phase (reduces documentation time by approximately 40% based on time-motion studies).

5) Cost Offset Analysis: Track and report rehospitalization rates, length of stay, and fall-related injury costs to demonstrate return on investment for administrative buy-in.

6) Turnover Mitigation:

- Maintain video-based training library for on-demand access.
- Schedule quarterly refreshers during mandatory staff meetings.
- Require demonstration of mobility assistance techniques during annual competency evaluations.
- Provide recognition and incentives for mobility champions (e.g., certificates, acknowledgment at staff meetings).

Expected Timeline to Full Integration: Approximately 6 - 9 months from initiation to full program integration with minimal ongoing support needed beyond routine quality monitoring.

5. Planned Evaluation Framework

Evaluation Logic Model

This evaluation framework links needs assessment findings to intervention components and expected outcomes:

Logic Chain 1: Fall Reduction: 1) Need: 68% of falls occur during transfers; 42% during evening shifts. 2) Intervention: Structured transfer technique training + supervised pre-bedtime mobility routines. 3) Primary outcome: $\geq 30\%$ reduction in overall fall rate (falls per 1000 resident-days). 4) Secondary outcomes: $\geq 50\%$ reduction in transfer-related falls; $\geq 40\%$ reduction in evening shift falls. 5) Measurement: Monthly fall rate analysis; incident report review with root cause categorization.

Logic Chain 2: Documentation and Care Continuity: 1) Need: Inconsistent ambulation documentation in 64% of charts. 2) Intervention: Standardized docu-

mentation templates + fidelity audits with feedback. 3) Primary outcome: $\geq 85\%$ documentation compliance across all disciplines. 4) Secondary outcome: Improved continuity of care evidenced by nursing handoff quality. 5) Measurement: Weekly chart audits; quarterly nursing handoff observations.

Logic Chain 3: Staff Competence and Safety: 1) Need: 42% of staff report limited confidence assisting mobility. 2) Intervention: Competency-based education + hands-on skills validation + ongoing mentoring. 3) Primary outcome: $\geq 80\%$ of staff report confidence ≥ 4 on 5-point scale at 6-month reassessment. 4) Secondary outcomes: Improved staff safety ($\geq 20\%$ reduction in workplace injuries during transfers). 5) Measurement: Pre-post staff confidence surveys; occupational injury tracking.

Logic Chain 4: Functional Outcomes: 1) Need: 30% - 40% of post-acute residents experience functional decline. 2) Intervention: Progressive strength/balance training + ADL-integrated mobility + tailored intensity tiers. 3) Primary outcome: ≥ 5 -point improvement in Barthel Index scores at 60 days (compared to historical facility baseline). 4) Secondary outcomes: $\geq 15\%$ increase in residents discharged to community vs. lower level of care. 5) Measurement: Barthel Index [6] and (FIM) [7] at admission, 30 d, 60 d, discharge; discharge disposition tracking.

Operational Definitions: 1) **Fall:** Unintentional descent to floor or lower surface, regardless of injury severity. 2) **Transfer-related incident:** Fall or near-fall occurring during bed-wheelchair, wheelchair-toilet, or chair-standing transitions. 3) **Mobility exposure:** Documented assisted ambulation ≥ 50 feet OR supervised transfer practice, measured as minutes per resident per shift (target: ≥ 30 minutes/day aggregated across all staff contacts). 4) **Serious fall injury:** Fracture, head trauma requiring imaging, laceration requiring sutures, or any injury requiring emergency department evaluation. 5) **Documentation compliance:** All required data fields completed within 24 hours of mobility session.

Assessment Protocols: Physical therapists administer the Barthel Index and Functional Independence Measure (FIM) at all designated timepoints (admission, 30 days, 60 days, discharge) to ensure consistency and inter-rater reliability. When physical therapy is unavailable due to staffing or scheduling constraints, occupational therapists serve as backup assessors. All assessors (PT and OT) complete standardized training using video-based case examples and must achieve $\geq 85\%$ agreement with expert scoring before conducting independent assessments. Training includes scoring practice with 10 video cases representing diverse functional levels, with immediate feedback on scoring discrepancies. For ongoing quality assurance, 10% of assessments undergo independent dual rating, with discrepancies triggering case review and consensus scoring. This protocol ensures measurement reliability across assessors and over time.

Data Quality Assurance: All disciplines use unified electronic health record (EHR) templates specifying required data fields (activity type, duration, distance, assistance level, resident response, barriers encountered) to ensure consistent data capture [8]. Templates include dropdown menus for standardized terminology

and auto-calculated fields (e.g., total distance walked) to minimize documentation burden and improve accuracy. For missing or incomplete assessment timepoints due to temporary medical decline (hospitalization, acute illness), assessments are rescheduled within 1 week of clinical stability. Residents who discharge before scheduled 60-day assessment have final functional status documented at discharge. For analysis purposes, last-observation-carried-forward is applied for missing intermediate timepoints when discharge data are available. Residents with no post-baseline assessments (e.g., early discharge within first week) are analyzed separately as “early discharge” subgroup to avoid bias from selective attrition. Fall documentation quality is monitored through standardized incident report forms requiring: date/time, location, activity at time of fall, supervision level, contributing factors (environmental/physiological/equipment-related), injury assessment, and immediate interventions. The rehabilitation director reviews all fall reports within 72 hours for completeness and conducts follow-up investigation for serious injuries or recurrent fallers (≥ 2 falls within 30 days).

Functional measures include the Barthel Index and Functional Independence Measure collected at admission, 30 days, 60 days, and discharge. Falls are documented within 24 hours using standardized reporting procedures. **Figure 3** provides an illustrative daily schedule demonstrating mobility integration across disciplines and shifts.

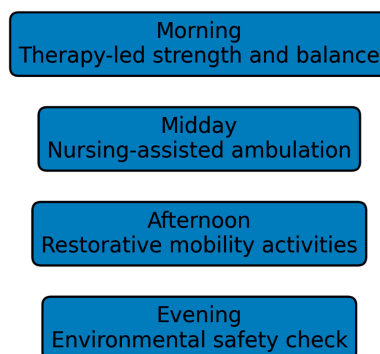


Figure 3. Sample daily mobility integration schedule. This representative schedule shows integration of mobility activities across disciplines and shifts for a Tier 1 (high intensity) resident. Individual schedules are tailored to resident functional level, therapy goals, and facility routines. Color coding indicates discipline responsibility: blue = physical/occupational therapy; green = nursing; yellow = restorative care; purple = group activities. Schedule demonstrates mobility reinforcement throughout waking hours rather than isolated therapy sessions. CNA = certified nursing assistant.

6. Discussion

This protocol aligns with implementation science frameworks emphasizing contextual adaptation and sustained behavior change [9]. This protocol is designed for both post-acute rehabilitation and long-term care SNF populations. The three-tier intensity system accommodates the full continuum of mobility needs, from intensive rehabilitation following hospitalization (Tier 1) to maintenance of func-

tional capacity in long-term residents with multiple comorbidities (Tier 3). Previous SNF mobility programs demonstrated feasibility but lacked operational detail [10]. This protocol addresses interdisciplinary accountability, workflow integration, and sustainability [11].

Limitations include development within a limited number of facilities with specific characteristics that may affect transferability. Participating facilities were mid-sized (80 - 150 beds) suburban SNFs in California with mixed post-acute and long-term care populations, existing physical and occupational therapy departments with combined caseloads of 40 - 60 residents, licensed nurse staffing ratios of approximately 1:15 - 20 residents, and certified nursing assistant ratios of approximately 1:8 - 12 residents during day shifts. Average staff tenure was 3 - 5 years with moderate turnover rates (approximately 30% annually). Facilities with different operational characteristics may require protocol modifications: 1) SNFs with minimal therapy services or higher patient-therapist ratios may need extended implementation timelines. 2) Facilities with higher nurse-resident ratios (>1:20) may need modified ambulation frequency targets. 3) Specialized populations (dedicated dementia care units, ventilator-dependent residents, behavioral health units) may require tailored eligibility criteria and safety protocols. 4) Rural settings with limited interdisciplinary resources may benefit from telehealth consultation support. 5) Facilities in early stages of quality improvement may need additional administrative support and change management expertise.

Additional limitations include lack of detailed cost quantification beyond basic equipment needs, and absence of patient-reported outcome measures. Self-reported mobility confidence, quality of life, and fear of falling are important resident-centered outcomes not included in the initial protocol due to cognitive and communication challenges in this population. Future implementations should explore feasible patient-reported measures for cognitively intact residents, such as abbreviated quality of life scales or visual analog scales for mobility confidence.

Ethics Statement

This project was conducted as an internal quality improvement initiative following established facility quality assurance and performance improvement (QAPI) protocols. The protocol received review and approval from the facility QAPI committee, which confirmed alignment with Centers for Medicare & Medicaid Services (CMS) QAPI requirements and facility quality priorities. As a quality improvement project focused on enhancing standard care delivery, the project did not require institutional review board (IRB) approval per federal regulations (45 CFR 46.102).

All retrospective data analysis adhered to Health Insurance Portability and Accountability Act (HIPAA) privacy standards. Data were accessed only by authorized clinical staff (physical therapists, occupational therapists, nurses, medical director) for quality improvement purposes. No individual resident or staff identifiers are included in any reports or publications. Aggregate data reporting uses

cell sizes ≥ 5 to prevent indirect identification.

Resident participation in mobility activities was based on physician orders and individualized care plans developed through standard informed consent processes for clinical care. Residents or their legally authorized representatives provided consent for mobility interventions as part of routine admission agreements. Residents retained the right to decline specific activities without impact on other aspects of care.

Data Availability

As this is a protocol manuscript describing program development methodology, retrospective data from the needs assessment (150 incident reports, 50 patient charts, and 23 staff surveys analyzed during January-December 2024) informed protocol design. These data are not publicly available due to patient privacy protections and institutional confidentiality requirements. The protocol specifies data collection procedures for future prospective implementation.

Conflicts of Interest

The author declares no conflicts of interest.

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