OPTIMISTIC: A Program to Improve Nursing Home Care and Reduce Avoidable Hospitalizations

28

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Background

Mrs. A. is an 84-year-old nursing facility resident. She has been living in the facility for 2 years; her primary issues are advanced dementia and congestive heart failure. She has been medically stable and has few behaviors related to her dementia. One evening when the certified nursing assistant (CNA) came to help Mrs. A to bed, she found her laboring to breathe. The unit nurse assessed her and found that her respirations were 30 breaths per minute, oxygen saturation 82 %, pulse 110, blood pressure 86/50. The nurse called the physician covering that evening who agreed with the plan to transfer Mrs. A to the emergency room. The following day, the Director of Nursing asked the nurse who sent the patient out, "Could this transfer have been avoided?" The nurse answered emphatically, "No, Mrs. A was unstable." After several days at the hospital, the resident returned to the nursing facility. Her daughter reported the hospitalization was very stressful and is upset that her mother seems so much weaker.

Similar situations frequently play out at nursing facilities across the country. A body of research has demonstrated that many hospitalizations of nursing facility residents are potentially avoidable [1–5]. The nurse's reaction in the vignette above is indignant—this was an unstable patient—of course transfer was necessary! Digging deeper, however, reveals a complexity to decisions to transfer frail nursing home residents that involve both clinical and non-clinical factors. Residents with dementia may have difficulty communicating new symptoms. Multiple medical issues may complicate the clinical picture. Availability of medical providers, communication among staff, staff to provider communication, family involvement and comfort with care in the facility, liability concerns, financial incentives, and resident preferences all may play a role [6].

Unnecessary transitions are costly, as well as burdensome for vulnerable residents and their families. Centers for Medicare and Medicaid Services research on dual eligible enrollees in nursing facilities found that approximately 45 % of hospital admissions could have been avoided, accounting for 314,000 potentially avoidable hospitalizations and $2.6 billion in Medicare expenditures in 2005 [7].

Centers for Medicare and Medicaid Services (CMS) Innovations Center and the Office of Medicare and Medicaid Coordination are running an initiative focused on this burdensome and costly problem. The "Initiative to Reduce Avoidable Hospitalizations Among Nursing Facility Residents" [7] is a 4-year demonstration project (2012–2016) focused on long-stay nursing facility residents aimed at reducing avoidable hospitalizations. For this demonstration project, eligibility is defined as long-stay nursing home residents with stays greater than 100 days in the facility or with no plan for discharge from the facility.

The OPTIMISTIC—Optimizing Patient Transfers, Impacting Medical Quality, and Improving Symptoms: Transforming Institutional Care—model, developed by clinicians and researchers at Indiana University, was built on experiences with successful research for care for frail elders [8, 9], clinical expertise in nursing home medicine, research infrastructure, and strong community partnerships. Strategies for reducing avoidable hospitalizations include

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(1) preventing conditions from occurring (e.g. preventing falls by managing polypharmacy), (2) early detection and intervention for changes in condition (e.g. observing subtle changes in behavior that could represent an infection), (3) ensuring resources are available to manage conditions in the nursing facility, and (4) advance care planning to allow residents to receive care consistent with their preferences [6]. Thus, the OPTIMISTIC model incorporates these evidence-based strategies with the aim to reduce avoidable hospitalizations for the long-stay nursing home resident.

Circling back to the vignette, if a root-cause analysis was done for Mrs. A's transfer, multiple opportunities for quality improvement and perhaps preventing the transfer may be identified. In this case, the Certified Nursing Assistant (CNA) had noticed that Mrs. A's shoes were harder to put on and so had placed her slippers on her for the past 3 days. If she had reported this finding as a change in condition to the nurse, who then followed up with an assessment, signs of heart failure exacerbation may have been detected sooner. If this was communicated in a clear and timely manner to the medical providers, Mrs. A could have been treated safely in the facility. Further, had the facility proactively engaged the patient's daughter in a discussion regarding pros and cons of hospitalizations in a patient with advanced dementia and heart failure, before this crisis, it is possible that she may have opted for comfort care at the facility and hence preventing a burdensome transfer.

Optimistic Model Overview

The OPTIMISTIC model entails interventions in three domains: medical care; palliative care; and transitional care. To monitor the implementation of the intervention, data collection and management support are included; and to ensure systematic deployment of the intervention across the project sites, education and training of the clinical staff are critical (Fig. 28.1).

The program is administered by specially trained Registered Nurses (RNs) stationed full time at the nursing facility to provide direct clinical support, and education and training to the staff, assist with review of medications, and facilitate goals of care discussions with the family. They also utilize the results of the root-cause analyses to suggest areas of quality improvement in the facility. Nurse Practitioners (NPs), with late morning to evening and weekend availability for in-person evaluations, work with 3–4 facilities to respond to urgent resident care needs. Moreover, they evaluate residents returning to the facility after a hospital or an emergency department visit to assure best practices in transitional care, and lead collaborative care management reviews to optimize chronic disease management. For the latter, the NPs lead collaborative care planning by engaging the resident and family, the staff and clinical providers in management discussions. The clinical staff is supported by a project team with extensive expertise in geriatrics, palliative care, and project management.

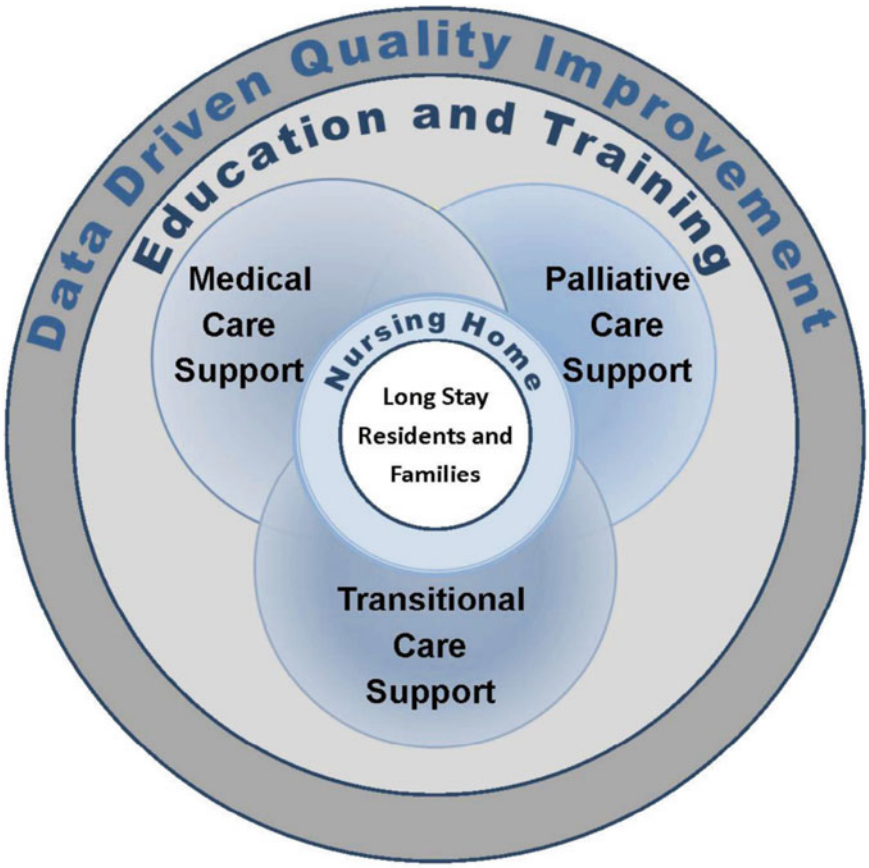
Medical Care

Early identification and assessment of changes in condition is a strategy identified to decrease potentially avoidable hospitalizations. OPTIMISTIC utilizes the Interventions to Reduce Acute Care Transfers (INTERACT) [10] tools to educate and mentor nursing facility staff to improve early recognition and management of acute conditions. The INTERACT tools also provide guided, systematic protocols to help nursing facility staff collect and relay critical clinical information to the medical providers. OPTIMISTIC nurses serve as INTERACT champions for the facilities by implementing care pathways and INTERACT tools designed to improve communication and integrate them into the work flow.

In addition to interventions for acute care, the OPTIMISTIC intervention also includes the collaborative, proactive review and management of the residents to promote care that is patient-centered and evidence-based. The RNs and NPs work together to conduct the Collaborative Care Reviews (CCRs) for medically complex resident. The CCR process is based on the principles of the Chronic Care Delivery model that emphasize the use of: (1) a proactive team; (2) engaged resident/family; and (3) systems for effective communication among team members and the residents, and is consistent with prior work done at Indiana University which demonstrated the effectiveness of collaborative care models targeting frail elders [8, 9]. CCRs employ principles of geriatric assessment to review the residents' diagnoses, recent hospitalizations, medications and their related diagnoses, function, cognition, mood, life-quality and satisfaction with care, chronic and acute symptoms, weights and nutrition, skin assessments, fall risks, vaccination status, advance directives, and overall goals of care. Recommendations, including medication adjustments, symptom management and quality of life items, generated from the CCR are discussed with a project geriatrician. The NP discusses the recommendations with the primary care provider and final recommendations are implemented as orders and communicated by the RN to the family and the facility. A summary of the CCR—the CCR consult—is placed in the resident's chart.

Palliative Care

Advance care planning and a focus on palliation is an integral component of the OPTIMISTIC model. Advance



Long Stay Residents and Families	are	residents who are enrolled as OPTIMISTIC participants and their families
Nursing Home	includes	OPTIMISTIC staff, facility staff and primary care providers in the participating facility
Medical, Palliative and Transitional Care	are	the core foci of quality improvement for OPTIMISTIC
Education and Training	is	a key feature of OPTIMISTIC providing support to the staff for the many roles they serve; facility staff and primary care providers are included in relevant aspects
Data Driven Quality Improvement	means	all activities of the OPTIMISTIC project are informed by data

Fig. 28.1 The OPTIMISTIC model

care planning with adequate documentation of such planning allows residents to receive care consistent with their preferences.

OPTIMISTIC staff completed the Respecting Choices® Last Steps [11] POLST facilitators training program. The training provides evidence-based standardized scripting and guidance for the conversations with patients and their families about medical decisions and offers the opportunity to appoint a health care representative. The treatment preferences decided by the resident and families are documented and translated into actionable medical orders with the utilization of the Physician Orders for Scope of Treatment (POST) form. POST is the Indiana version of the Physician Orders for Life Sustaining Treatment (POLST) paradigm, passed into law in July 2013.

In addition to conducting advance care planning conversations with residents, the OPTIMISTIC staff completed certification as End-of-Life Nursing Education Consortium (ELNEC)-Geriatric trainers [12]. This train-the-trainers educational program was designed to improve palliative care knowledge for staff in the long-term care setting. ELNEC-Geriatric content includes pain and symptom management, cultural considerations, ethical and legal issues, communication, grief, loss, and bereavement, and preparation and care at the time of death.

Educational materials have been created for facility staff and residents and their families to improve palliative care understanding and implementation. Topics include comfort care, palliative care and hospice, artificial nutrition and hydration, pain management, antibiotic use, and symptom management.

Transitional Care

When a transfer to the hospital is necessary, OPTIMISTIC interventions seek to minimize harm and disruption of care that may occur with transitions. Research in this area has identified best practices in transitional care that includes timely transfer of records, medication reconciliation, advance care planning and patient and family education [13]. As described above, the OPTIMISTIC NPs make timely "transition visits" to assure that transitions are high quality by focusing on detailed medication reconciliation, evaluation of the recent hospitalization, and review of the resident's goals of care. These visits are meant to supplement and not replace the visits that are required from the primary care teams. The OPTIMISTIC team reviewed transfer procedures at the nursing facility to assess if they met standards of care and offered recommendations. The OPTIMISTIC program also introduced and helped to integrate into facility processes a Transition Cue Card tool, developed by the regional patient safety coalition. The cue card has prompts for the accepting nurse to request and document key information from the hospital visit at the time of hospital to facility discharge to increase the quality of the hospital to facility transitions.

Finally, to better understand the reasons for facility to hospital transfer and to identify areas for quality improvement, the OPTIMISTIC RNs conduct a root-cause analysis on every resident transfer to the hospital.

Staff Education and Training

All OPTIMISTIC staff received a 2 week "boot camp" training designed to introduce them to the overall project and their facilities. They also attended a day-long INTERACT training session accompanied by the leadership from all of the project facilities. The OPTIMISTIC staff spent their first weeks in the facilities going through orientation to the facility and introducing the program to the staff. The OPTIMISTIC clinical staff received training in the following domains and training session:

- Communications and interpersonal relationships: Building Effective Working Relationships, Communication and Information Sharing Among the Team, Practical Application of Communication Skills, Delivering Effective Adult Education;
- Nursing Home clinical setting: Consistent Assignment, Critical Thinking in the Nursing Home, Origin and Intent of Nursing Home Regulation, Quality Assurance (QA) and Performance Improvement (PI) Approach to Staff Stability, Nursing Home Capabilities, Resources and Expectations;
- Clinical topics: Respecting Choices® Last Steps POLST facilitators training program, Link Between Quality of Life and Quality of Care, Reducing Distress and the Use of Anti-Psychotics: Case Studies, INTERACT Implementation, End-of-Life Nursing Education Consortium (ELNEC)-Geriatric, Dementia—What do I Really Need to Know?, Infections and Antibiotics, Geriatric Nursing Sessions, Root Cause Analysis, Transitional Care: Case Studies.

The clinical staff received ongoing training for one half day per week for the first year of the project and now spend about two half days per month in training sessions.

Lessons Learned from the Implementation Experience

Nursing facilities represent a complex adaptive system and resist attempts to change [14]. The challenges that emerged during the implementation of the OPTIMISTIC project validated this notion and provided the project team with key lessons regarding implementing change in the nursing home environment.

1. Engagement of the facility leadership: OPTIMISTIC clinical staff are employed by the project team but embedded in individual nursing facilities with unique cultures and varying degrees of engagement in quality improvement efforts. Characteristics of facilities with successful integration of the OPTIMSITC program have direct engagement from the facility leadership, particularly in nominating a "point person" who will meet regularly with the OPTIMISTIC RN and serve as an internal champion for the project—this has been the Director of Nursing (DoN) in nearly every facility.
2. Role clarification: For an effective partnership between the nursing facility and the OPTIMISTIC program, clear definitions of the OPTIMISTIC RN and NP roles were necessary. Further clarification was required of how these roles differed from the responsibilities of other RNs and NPs in the building.
3. Ongoing education and feedback from stakeholders: Before each component of the intervention was launched, several key stakeholders were engaged. These included corporate leadership and facility administrators, medical directors and affiliated physicians, and facility champions and frontline nursing facility staff. The implementation approach started with an introduction to the concept—by email or in-person meetings. Model policies, frequently asked questions, sample forms, intervention materials, and background materials were provided. Pilot periods for rollout were established and feedback was solicited following pilots. After reviewing feedback, the project team revised interventions and dissemination strategies to respond to concerns. To fully integrate these concepts into the facility work flow, refresher or "booster" sessions were presented by the OPTIMISTIC RNs after the initial rollout.

Implementation for the advance care planning and POST form implementation was the most intensive. Due to the newly legalized POST form in Indiana, which coincided with the roll out of the project intervention, there was extensive need for education with additional stakeholders including hospitals, EMS, social workers, primary care providers and patients and families.

4. Individualized problem-solving: Concerns about implementation have been addressed on a case-by-case basis. When confronted with barriers, facility-specific action plans have been developed with the facility and project leadership to resolve issues, including promotion of clear communication and time management.
5. Systems for ongoing monitoring: Data collected for the project have been used to evaluate the level of impact or "dose" at the individual facility. A quarterly check-in survey completed by the facility executive directors and DoNs assesses the level of engagement and stage of implementation of components of the project.
6. Sharing of results with our partners: Data collection by the OPTIMISTIC clinical staff is entered into a data system which is merged with resident information from the nursing facilities electronic medical records (EMRs), and a weekly Minimum Data Set (MDS) data feed. Transfer tracking and quality improvement reports from this data system are disseminated to the facilities to inform decision making and quality improvement efforts.

In summary, effective implementation has required frequent communication with the many external stakeholders including the diverse facility partners, corporate leadership, administrators, DoNs, medical directors and primary care providers, nursing facility staff and residents and families. Program protocols, materials and tools are reviewed and feedback provided by the project's Advisory Board and a Clinician Advisory Council. The Advisory Board's membership is comprised of representation from the state Medicaid office, trade associations, Ombudsman, Emergency Medical Services providers, and the Quality Improvement Organization. A quarterly meeting with partnering physicians and NPs (Clinician Advisory Council) has also helped disseminate the intervention strategies and also to gain feedback from this group of key stakeholders.

Outcomes

The primary outcome will be reduction in avoidable hospitalizations of long-stay nursing facility residents. The outcomes of OPTIMISTIC and the other related demonstration projects are undergoing an external evaluation by a third-party evaluator. The evaluator is collecting qualitative data through interviews with facility stakeholders and project team members. A quantitative analysis using claims data for enrolled residents and matched facility controls is also planned.

We anticipate reduction in hospitalizations will occur based on the success the components of the OPTIMISTIC intervention have had in other studies, in particular INTERACT [10] and POLST [15]. In addition, the OPTIMISTIC RNs and NPs represent true added resources to support clinical care of residents who have a change in status.

Interim measures of success include: (1) the numbers of residents who do have a transfer out who are seen by our NPs soon after return for a comprehensive transfer visit, (2) the number of residents and families who participate in advance care planning conversations, (3) the number of residents who have completed Collaborative Care Reviews, and (4) the extent of implementation of INTERACT tools [10].

Policy Implications

Expanding the demonstration project OPTIMISTIC into a scalable model entails multiple considerations, including a review of the other six similar models that are being tested through this mechanism. All OPTIMISTIC facilities were located within 45 min of central Indianapolis, allowing project NPs to cover multiple facilities and respond to acute clinical issues. This geographic closeness has also enabled visits by the project team leadership to the nursing facilities to maintain relationships and problem solve when barriers are encountered. The model will need to be adapted in areas where facilities are spread over a wider area.

Infrastructure to support a clinical staff providing direct care is needed, including salary, benefits, and malpractice coverage, as well as dedicated FTE for the specialized supervision and coordination involved. The clinical staff practices at multiple different sites, integrating into the practices and culture of a given facility. Supervisors need to navigate potentially multiple different organizations to address issues an OPTIMISTIC nurse may be experiencing at a site.

The role of the OPTIMISTIC RNs differs from traditional nursing roles and has been defined and refined throughout the project, based on feedback from the RNs themselves, as well as facility stakeholders. As described, extensive training covering both content and skill development is needed to perform in this role.

In OPTIMISTIC, the project leadership team guided the roll-out of the implementation of the pieces of the intervention, working with clinical staff to tailor the timing as needed based on the facility. There were key physician leaders on the project team who spent considerable time in outreach to medical providers in the community, garnering this key support for collaborative practice.

Data collection has required significant resources of the clinical staff and project team. Data are centrally managed

and reports, based on data gathered by the project clinical staff, were generated and provided back to facilities to support quality improvement efforts. Data reports were also produced regularly to monitor clinical staff activities and overall implementation of the project from multiple viewpoints.

Finally, another driver of avoidable hospitalizations of nursing home residents is a flawed incentive structure where nursing facilities and providers are often not reimbursed for additional resources needed to care for a sick resident in place, but will be reimbursed at higher rates if the resident is hospitalized and later returns to the facility [6]. These financial incentives are recognized by policymakers. Financial reform is an important complement to efforts to enhance care delivery for nursing home residents.

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