

**Original Article**

# Comfort Measures Orders and Hospital Transfers: Insights From the OPTIMISTIC Demonstration Project



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**Abstract**

**Context.** Nursing facility residents and their families may identify “comfort measures” as their overall goal of care, yet some hospital transfers still occur.

**Objectives.** Describe nursing facility residents with comfort measures and their hospital transfers.

**Methods.** Mixed methods, including root cause analyses of transfers by registered nurses and interviews with a subset of health care providers and family members involved in transfers. Participants were residents in 19 central Indiana facilities with comfort measures orders who experienced unplanned transfers to the hospital between January 1, 2015 and June 30, 2016. Project demographic and clinical characteristics of the residents were obtained from the Minimum Data Set 3.0. Interviews were conducted with stakeholders involved in transfer decisions. Participants were prompted to reflect on reasons for the transfer and outcomes. Interviews were transcribed and coded using qualitative descriptive methods.

**Results.** Residents with comfort measures orders ( $n = 177$ ) experienced 204 transfers. Most events were assessed as unavoidable (77%). Communication among staff, or between staff and the resident/family, primary care provider, or hospital was the most frequently noted area needing improvement (59.5%). In interviews, participants ( $n = 11$ ) highlighted multiple issues, including judgments about whether decisions were “good” or “bad,” and factors that were important to decision-making, including communication, nursing facility capabilities, clinical situation, and goals of care.

**Conclusion.** Most transfers of residents with comfort measures orders were considered unavoidable. Nonetheless, we identified several opportunities for improving care processes, including communication and addressing acute changes in status. *J Pain Symptom Manage* 2019;58:559–566. © 2019 American Academy of Hospice and Palliative Medicine. Published by Elsevier Inc. All rights reserved.

**Key Words**

*Comfort measures, hospital transfers, nursing home, advanced care planning*

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**Introduction**

Advance care planning (ACP) is the process of eliciting goals, values, and preferences for medical treatments. It is widely recommended as a best practice for seriously ill patients<sup>1</sup> as research suggests that ACP can reduce family caregiver stress and anxiety, increase satisfaction with care, and help to ensure that the care provided is consistent with preferences.<sup>2–5</sup>

The Physician Orders for Life Sustaining Treatment (POLST) program ([www.polst.org](http://www.polst.org))<sup>6</sup> provides a structured approach to document preferences elicited during ACP as medical orders. Use of POLST is promoted by the Institute of Medicine<sup>1</sup> and the National Quality Forum.<sup>7</sup> POLST forms contain orders reflecting preferences, such as cardiopulmonary resuscitation, artificial nutrition, and medical interventions. The three

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overarching medical intervention options are “Full Intervention,” “Limited Additional Interventions,” and “Comfort Measures.” Full Intervention is the default standard of care and indicates a preference to provide all medically indicated interventions. Limited Additional Interventions reflect a preference for interventions to stabilize the medical condition, but avoid more aggressive measures such as intubation and the intensive care unit. Comfort Measures orders direct providers to maximize comfort through symptom management and avoid transfer to the hospital setting unless comfort needs cannot be met. Although there are minor differences in the patient eligibility or precise language on POLST forms,<sup>8</sup> every state allows orders on POLST forms to be honored across settings of care.

Although there have been other studies examining POLST use,<sup>9</sup> one large research study focused on the use of POLST in nursing facilities has demonstrated that residents who elect Comfort Measures are less likely to experience transfers to the hospital than residents with Limited Additional Interventions or Full Treatment orders on POLST or code status orders alone.<sup>10</sup> In this same sample, the care provided was consistent with Comfort Measures orders 74% of the time. Transfers of residents with Comfort Measures orders were primarily prompted by conditions that could not be safely managed in the nursing facility such as trauma related to a fall or uncontrolled pain.<sup>11</sup> However, this previous work was limited to what was documented in the medical record and data were only collected over a short period.

The Optimizing Patient Transfers, Impacting Medical Quality and Improving Symptoms: Transforming Institutional Care (OPTIMISTIC) project is a large, ongoing clinical demonstration project in Indiana,<sup>12,13</sup> which includes structured ACP with nursing facility residents as a key part of a multi-component intervention. OPTIMISTIC project registered nurses (RNs) and nurse practitioners (NPs) are trained to facilitate ACP discussions with long-stay nursing facility residents and their surrogate decision-makers using the Respecting Choices Advanced Steps model.<sup>13–15</sup> Treatment preferences are recorded on the Indiana version of POLST called the Physician Orders for Scope of Treatment (POST) form when appropriate and desired by the resident or the legally designated surrogate decision-maker for residents who lack decisional capacity.<sup>16</sup> Reducing hospitalization rates is the primary outcome of the demonstration project, and thus these transfers are closely tracked. RNs complete root cause analyses of every hospital transfer event.<sup>13,17,18</sup>

The overall goal of this analysis is to present a fuller, descriptive picture of long-stay nursing facility residents who transfer to the hospital in the setting of

having clearly elected comfort-focused care. Using the rich data available from the OPTIMISTIC project, we present descriptive analyses of hospital transfer events of long-stay nursing facility residents with comfort measures orders. To complement these quantitative analyses, we also present insights from interviews conducted with surrogate decision-makers of residents who had elected comfort measures but who transferred to the hospital, as well as providers who were involved in these transfer decisions.

## Methods

### Setting

The OPTIMISTIC demonstration project was approved by the appropriate institutional review board. Indiana was one of seven sites participating in this national Centers for Medicare and Medicaid Services funded clinical demonstration project.<sup>19,20</sup> Data were collected between January 1, 2015 and June 30, 2016 in 19 nursing facilities, located in urban and suburban areas of central Indiana (of approximately 500 nursing facilities in the state). These sites represent a mix of for-profit, not-for-profit, and county-owned facilities. In OPTIMISTIC, a project nurse (RN) is assigned to each nursing facility to implement the OPTIMISTIC clinical model, supported by project NPs who cover multiple facilities.<sup>13,21,22</sup> The project RNs are embedded full-time (Monday through Friday, 8 AM–5 PM) in the facility to respond to acute changes in condition of residents, facilitate ACP with residents and families, and support the nursing staff of the facility through education and mentoring. The project NPs provide clinical support through evaluations of residents experiencing acute changes in condition and provide transitional care visits for residents who have returned from the hospital. The OPTIMISTIC project RNs and NPs are responsible for documenting clinical encounters and root cause analyses of transfer events in a database for monitoring and evaluation of the intervention.

### Participants

During the 18-month data collection window, 2391 long-stay residents were enrolled. Residents were eligible for OPTIMISTIC if they were long stay (defined by greater than 100 days in the facility) and did not have Medicare managed care coverage. Per CMS guidelines, eligible residents were passively enrolled with the opportunity to opt-out. Less than 1% of eligible residents opted out. Participants in this analysis were residents enrolled in OPTIMISTIC who had a signed POST form that included orders for “Comfort Measures” at the time of an acute hospital transfer.

### *Quantitative Data Collection Procedures*

Information about the transfer events was abstracted from root cause analysis forms completed by OPTIMISTIC project RNs after each hospital transfer. The root cause analysis forms were adapted from tools developed by INTERACT.<sup>23,24</sup> Data elements on these forms include the date and time of the transfer, clinical signs and symptoms leading to the transfer, evaluation of potential avoidability of the transfer (avoidable/potentially avoidable vs. unavoidable/potentially unavoidable), and opportunities for quality improvement.<sup>13,17,18</sup> The OPTIMISTIC project RNs, who are not employees of the nursing facilities, are asked to make a determination of avoidability based on clinical judgment and on whether the transfer would be avoidable if ideal nursing facility resources were available. The RNs also recorded whether the resident had a POST form and the orders contained on the POST, including orders for comfort measures. All data were managed using REDCap electronic data capture tools hosted internally.<sup>25</sup>

Additional data describing resident characteristics were drawn from the mandated Minimum Data Set 3.0 assessment instrument,<sup>26–28</sup> collected on all nursing facility residents in Medicare and Medicaid-certified facilities. All Minimum Data Set 3.0 data were collected from the closest comprehensive assessment before the date of transfer.

### *Quantitative Data Analysis*

Residents' demographic characteristics and hospital transfer event data were analyzed using descriptive statistics. For residents with multiple transfers and comfort measures orders, the first hospital transfer was included in the analysis. Comparisons of residents with potentially avoidable transfers vs. those whose transfers were found to be unavoidable were analyzed using Fisher exact test. Data were analyzed using SAS software, version 9.4 (SAS System for Microsoft, Cary, NC).<sup>29</sup>

### *Qualitative Data Collection Procedures*

Participants in the qualitative interviews were family members or health care providers involved in the decision to transfer. A total of 11 interviews, five family members and six clinicians involved in transfer decisions, were completed. The clinicians included four interviews with physicians, one with an OPTIMISTIC RN, and one with an OPTIMISTIC NP.

The project manager reviewed the project database on a weekly basis to identify transfers that occurred for a resident with documented comfort measures orders. The project manager provided the list to the first author for review and to identify potential cases for recruitment. Study staff contacted the OPTIMISTIC

project RN in the nursing facility to identify if a family member was involved in the decision to transfer and which health care providers were involved in the decision to transfer. Potential decision makers included health care providers, the resident, surrogate decision makers including family, OPTIMISTIC RN, or OPTIMISTIC NP.

Study staff called the potential participants to review the study information sheet and conducted individual interviews with those who provided verbal consent. Interviews were conducted by phone and audio-recorded; the audio-recordings were transcribed verbatim and checked for accuracy by the staff member who had conducted the interview.

Questions posed to the clinical providers included: "Are there any additional resources that would have allowed the resident to receive appropriate care in the facility?" and "How confident were you in the decision to transfer the resident, and that it was consistent with established care goals?" Questions asked of surrogate decision-makers included: "Could you tell me in your own words what 'comfort measures' means to you?" and "The POST form says your loved one should go to the hospital to be comfortable, if they can't be comfortable in the facility. Do you feel that the trip to the hospital achieved that goal, and if so, how so?"

### *Qualitative Analysis*

Research team members read all interview transcripts and discussed potential themes in the data.<sup>30</sup> One of the authors created an initial coding list of themes after reviewing the transcripts using NVivo qualitative software; QSR International Pty Ltd., Melbourne, Australia, Version 12, 2018. All interview transcriptions were coded by at least two members of the study team. Discrepancies were resolved and major themes affirmed through team discussion and consensus.

## **Results**

### *Participants*

There were 901 nursing facility residents enrolled in OPTIMISTIC who experienced an unplanned transfer to the hospital between January 1, 2015 and June 30, 2016. These residents were largely white (82.5%) and female (71.8%), with a mean age of 83.2 years. Most residents (78%) had a diagnosis of dementia (Table 1).

### *Comfort Measures Transfers*

Of the 901 long-stay residents with an unplanned transfer, 20% (177 of 901) had comfort measures orders indicated on a POST form at the time of the transfer. The mean number of transfers for residents

**Table 1**  
**Characteristics of Long-Stay Residents With Comfort Measures Orders and Unplanned Hospital Transfers (January 1, 2015 to June 30, 2016)**

Characteristic	N = 177 <sup>a</sup>
Length of stay at transfer, days, mean ± SD	793.7 ± 627.7
Transfers per resident, mean ± SD	1.4 ± 0.7
Age at transfer, yrs, mean ± SD	83.2 ± 9.0
Female, %	127 (71.8)
Race, % (n = 177)	
Non-Hispanic white	146 (82.5)
African American <sup>b</sup>	28 (15.8)
Hispanic <sup>b</sup>	3 (1.7)
Diagnosis, % <sup>c,12,15</sup> (n = 177)	
Hypertension	147 (83.1)
Alzheimer's or other dementia	138 (78.0)
Depression	108 (61.0)
Chronic obstructive pulmonary disease	57 (32.2)
Diabetes mellitus	57 (32.2)
Heart failure	48 (27.1)
Cancer	14 (7.9)
Cerebrovascular accident, transient ischemic attack, stroke	12 (6.8)
Life expectancy <6 months, % <sup>a,15</sup> (n = 177)	7 (4.0)
Activities of daily living self-performance, mean ± SD <sup>a,d</sup> (n = 172)	19.4 ± 3.2

OPTIMISTIC = Optimizing Patient Transfers, Impacting Medical Quality and Improving Symptoms: Transforming Institutional Care; RN = registered nurse; MDS = Minimum Data Set.

<sup>a</sup>Comfort measures status as determined by OPTIMISTIC RN at the time of transfer.

<sup>b</sup>Not mutually exclusive.

From the most recently available MDS assessment before transfer for each resident.

<sup>d</sup>Bed mobility, transfer, locomotion on unit, dressing, eating, toilet use, and personal hygiene. Potential scores range from 0 (independent) to 28 (total dependence).<sup>44</sup>

with comfort measures orders was 1.4 (SD = .7) per resident. Most transfers were triggered or requested by nursing facility staff (49.7%) or the resident's primary care provider (20.3%). In 11% of transfers, the family or resident requested the transfer. About 14% of the transfers involved a 911 call. The most common clinical issues leading to transfer to the hospital were falls, trauma, or fracture (32.8%), cognitive or behavioral changes (21.3%), and respiratory symptoms (7.5%) (Table 2).

OPTIMISTIC RNs who conducted root cause analyses determined that 136 (77%) of the transfers were unavoidable. They also identified opportunities for improvement in clinical evaluation, clinical management, or communication from a drop-down list of categories. Communication among nursing facility staff, or between staff and the resident/family, primary care provider, or hospital was the most frequently noted area noted as needing improvement (59.5%). The next most common category for improvement was inadequate or inconsistent monitoring and lack of access to diagnostic procedures, treatments, and ancillary services (36.5%), followed by pre-transfer assessments that were incomplete, inadequate, or not provided (29.2%) (Table 2).

**Table 2**  
**Characteristics of Acute Hospital Transfers for Long-Stay Residents With Comfort Measures Orders (January 1, 2015 to June 30, 2016); First Transfer Per Resident Only**

Characteristic	N = 177 <sup>a</sup>
Was transfer avoidable per OPTIMISTIC RN? <sup>b</sup> (n = 174), %	
Not avoidable (Definitely not avoidable, Probably not avoidable)	134 (77.0)
Potentially avoidable (Probably avoidable, Definitely avoidable)	40 (23.0)
Primary symptom leading to transfer (n = 175), %	
Fall/Trauma/Fracture	57 (32.8)
Cognitive/Behavioral/Psychiatric	37 (21.3)
Respiratory	13 (7.5)
Other	10 (5.8)
GI symptom	9 (5.2)
Cardiovascular	9 (5.2)
Non-cognitive neuro (including CVA, TIA)	8 (4.6)
Pain	8 (4.6)
Change in appetite/malaise	8 (4.6)
Infection/immune system	6 (3.5)
Heme/bleeding (non-GI)	4 (2.3)
Abnormal laboratories	3 (1.7)
Urinary symptoms	2 (1.2)
Time of transfer, %	
Weekday (during OPTIMISTIC coverage; 8 AM to 5 PM)	68 (39.1)
Weekday evening (5 PM to 12 AM)	36 (20.3)
Weekday night (12 AM to 8 AM)	20 (11.3)
Weekend	53 (29.9)
Who triggered/requested transfer? %	
NF staff	88 (49.7)
Facility medical provider (MD/NP/PA decision)	56 (31.6)
Family or resident preference	20 (11.3)
Other	8 (4.5)
OPTIMISTIC RN or NP	3 (1.7)
Unspecified MD/NP/PA decision	2 (1.1)
Who ordered the transfer? %	
Medical provider	147 (83.1)
Resident's PCP	77 (43.5)
Resident's primary care NP	31 (7.5)
On-call physician	14 (7.9)
On-call physician NP	9 (5.1)
OPTIMISTIC NP	3 (1.7)
Unspecified medical provider	1 (7.3)
Emergency/911	25 (14.1)
Other	5 (2.8)
Was there a medical evaluation? (n = 175), %	
Yes	115 (65.7)
Evaluation type before transfer, % <sup>c</sup>	
Telephone evaluation only	71 (40.1)
NP or PA visit	27 (15.3)
MD visit	14 (7.9)
OPTIMISTIC NP visit	6 (3.4)
Other	3 (1.7)

OPTIMISTIC = Optimizing Patient Transfers, Impacting Medical Quality and Improving Symptoms: Transforming Institutional Care; RN = registered nurse; GI = gastrointestinal; NF = nursing facility; NP = nurse practitioner; CVA = cerebrovascular accident; TIA = transient ischemic accident; MD = medical doctor; PA = physician assistant; PCP = primary care provider.

<sup>a</sup>Comfort measures status as determined by OPTIMISTIC RN at the time of transfer.

<sup>b</sup>As assessed by OPTIMISTIC RN during root cause analysis.

<sup>c</sup>Responses included one or more of these options, so numbers add up to more than 100%.

### Qualitative Findings

When prompted to reflect on the reasons for the transfer event and the outcome for the resident, participants identified multiple issues, including their

own judgment now about whether the transfer was a “good” or “bad” decision. They also discussed factors that were important to decision-making regarding hospital transfers including communication among stakeholders, capabilities of the nursing facility to provide needed assessment and care, clinical situation such as symptoms, and clarity of goals of care. There were similarities in themes identified by family members and clinical providers, as well as some differences based on their perspectives.

Themes highlighted by family members include the following: 1) ambivalence about which care setting can best achieve comfort; 2) recognition of the limits of what can be done in the nursing facility; and 3) the roles of multiple stakeholders involved in the decision.

When family members reflected back on the transfer experience and outcomes, some reported feeling ambivalent, recognizing that they would likely face similar decisions in the future: *“He’s just at the point that it’s just miserable for him, so keeping him comfortable now is the goal, but you can only go so far, so is he comfortable at the hospital? Would he be comfortable at the nursing facility? Wow. I honestly don’t know.”* Family members’ decisions to advocate for a transfer were motivated in part because of a belief that the hospital offered resources (e.g., diagnostic tools) and expertise (e.g., specialist physicians) that were needed but not available in the nursing facility. As one family member remembered, *“I said mom, our options are you stay here and you suffer, or we get you checked out and find out what is really going on, and she said well then, what do you think? I said I’d like to know what’s going on, and then she reiterated, I don’t want anybody cutting on me, but let’s find out what’s going on, so that was the decision process.”*

Participants in both groups also highlighted that family members may disagree about what to do in urgent situations, causing conflict. In addition, recommendations from the facility staff left family members feeling that that was no choice but to transfer the resident. As one family respondent described *“they called me and they said that he was in pain, and that they’ve done pretty much what they feel they could do, and they felt that maybe going to the hospital, they might be able to find out a little bit more”* and *“They called me, and said he needed to go.”*

Clinicians described similar factors contributing to transfers, with new themes including: 1) dependence on communication from the nursing facility and other stakeholders to make decisions; 2) inadequate knowledge of existing orders, that is, comfort measures; and 3) the role of family preferences in driving the decision to transfer.

Physicians and NPs described relying on the facility nurse’s clinical assessment and information about

current orders, such as preferences for medical treatment, when they were not there in person and did not have direct access to the medical record. In the words of one provider *“... if a nurse calls and wants the patient sent out and I don’t necessarily know their code status and if they don’t feel comfortable handling that patient, I will generally do it.”* Another added, *“I don’t have (electronic medical record) access to all those people when I’m talking to the nurses in the evening, and if I’m not told that the person is comfort measures or doesn’t want to go to the hospital, typically I’m not going to remember that.”* One primary care provider described how discordant views among multiple stakeholders coupled with lack of familiarity with the resident’s condition and preferences influenced the decision to transfer: *“Everybody was on different pages. I think the daughter really wasn’t wanting him to be sent out at that point but I think she was confused. I think the nurse was motivated to have him sent out and the physician (on call) was just unaware of all of the other information.”* Some providers highlighted their reliance on family members to drive these decisions: *“it’s a lot of time related to the family, and if the family was as insistent as this daughter was, I probably would do the same thing again.”*

## Discussion

These analyses provide insight on hospital transfer events and decision-making that occurred in the setting of established, durable medical orders to focus on comfort measures. When “comfort measures” is the documented preference for care, the expectation is that hospitalization will be avoided if possible. Hospitalizations may still occur for these residents and would be considered consistent with care preferences if the intent of hospital transfer is to achieve comfort. In this mixed methods study, we found that the most common reasons for transferring to the hospital are falls, trauma, or suspected fracture and that most transfers of residents with orders with comfort measures were considered unavoidable. Our qualitative analysis highlighted that the decisions surrounding transfers of residents with comfort care orders are complex and involve multiple stakeholders. In addition, family preferences at the time that transfer is being considered drive decisions to transfer a patient out of the facility, although there is ambivalence about which care setting best achieves comfort. Nurses identified opportunities to improve or reduce transfers, including enhancing communication among key stakeholders and promptly addressing acute changes in status.

There have been a limited number of studies examining whether treatments provided to nursing facility

residents with comfort measures orders are consistent with their goals. One study used a standardized chart review process and found that treatments, including hospital transfers, were consistent with preferences 74% of the time. Similar to our findings, trauma related to falls was the most common reason for transfer of residents with comfort measures in this study.<sup>11</sup> Although we did not explicitly measure whether transfer events were consistent with resident goals of care, RNs embedded in the facilities and conducting root cause analyses felt most transfers could not be avoided. Furthermore, our findings are similar to with other work describing rates of avoidability determined by RN raters doing root causes analyses.<sup>31</sup>

Several earlier qualitative studies have examined stakeholder perspectives on transitions of nursing facility residents to the hospital. Inadequate communication among families, residents, and providers,<sup>32–34</sup> as well as between nursing facility-based providers nursing facility and ED clinicians<sup>35–38</sup> have been cited as contributing to unnecessary nursing facility transfers.<sup>32,36,38</sup> Our findings support those of earlier studies in that RNs noted that poor communication was involved in nearly 60% of transfers. The interviews underscored specific challenges with communication that contributed to decisions to transfer residents to the hospital. These issues included communication among family members who have conflicting perspectives as to the resident's needs and preferences. Other factors that may have contributed to hospital transfers included insufficient information about the resident's acute clinical changes and treatment preferences available to providers, who often were not on-site and were unfamiliar with residents. Knowledge of the patient and quality communication among multiple stakeholders is essential to high-quality transfers.<sup>39,40</sup> Structured communication tools for nurses and direct access to medical records have the potential to enhance the quality of medical decision-making of providers who are evaluating a change in condition via phone.<sup>13,34,38,41</sup> Furthermore, on-site availability of medical providers and rapid recognition of changes in status allow staff and providers to address issues before symptoms escalate or to initiate treatment early in acute illness.<sup>42–45</sup>

Even in the context of residents and families who have participated in structured ACP, issues with family dynamics arise during acute medical events. Documentation of treatment preferences can help guide decision-making, but some conflict may be unavoidable in stressful situations that involve multiple stakeholders.<sup>46</sup> As other studies have demonstrated providers often defer to surrogate decision-makers and identify surrogate preference as the most significant influence in the decision to transfer.<sup>47,48</sup> Our findings support other work that has described

documentation of treatment preferences as important groundwork, but identified that how nurses and physicians respond to acute events and talk with family members drives decision-making.<sup>48</sup> Family members in our study indicated that their decisions to transfer often followed recommendations they received from nursing facility staff.

Limitations to these analyses include a lack of specific detail as to how comfort measures orders were communicated and considered during all transfers. Nursing facility residents participating in the OPTIMISTIC demonstration project have access to quality ACP facilitation through the trained OPTIMISTIC RNs; thus, results may not be generalizable to transfers that occur in other facilities. All nursing facilities included were participating in a multi-component intervention designed to reduce avoidable hospital transfers, and thus may have a heightened focus on hospitalizations compared with other facilities. Furthermore, we did not have access to Medicare claims data, and reasons for hospitalizations were abstracted from the medical record by project clinical staff. Interviews were conducted with a small sample of providers and family members involved in transfers.

### ***Conclusions and Implications***

In this mixed methods study of long-stay nursing facility residents who transferred to the hospital despite the presence of comfort measures orders, most transfers were deemed unavoidable by RN experts using a standardized root cause analysis tool. Significant opportunities exist, however, to support residents, family decision-makers, nursing staff, and medical providers in communicating better to honor residents' preferences for comfort measures in the setting of an acute change in status.

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K. T. U. is CEO and Founder of Care Revolution, Inc., a program to train nurses to reduce nursing home hospital transfers.

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