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- 1 **Title** - Comfort Measures Orders and Hospital Transfers: Insights from the OPTIMISTIC Demonstration
- 2 Project
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17 **Abstract**

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

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

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

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

37 **Conclusion:** Most transfers of residents with comfort measures orders were considered
38 unavoidable. Nonetheless, we identified several opportunities for improving care processes,
39 including communication and addressing acute changes in status.

40 **Key words** - comfort measures; hospital transfers; nursing home; advanced care planning

41 **Running title** - Comfort Measures Orders and Hospital Transfers

42 Introduction

43 Advance care planning (ACP) is the process of eliciting goals, values and preferences for
44 medical treatments. It is widely recommended as a best practice for seriously ill patients¹ as
45 research suggests that ACP can reduce family caregiver stress and anxiety, increase satisfaction
46 with care, and help ensure the care provided is consistent with preferences.²⁻⁵

47 The Physician Orders for Life Sustaining Treatment (POLST) program (www.polst.org)⁶
48 provides a structured approach to document preferences elicited during ACP as medical orders.
49 Use of POLST is promoted by the Institute of Medicine¹ and the National Quality Forum.⁷
50 POLST forms contain orders reflecting preferences, such as cardiopulmonary resuscitation,
51 artificial nutrition, and medical interventions. The three overarching medical intervention
52 options are “Full Intervention,” “Limited Additional Interventions” and “Comfort Measures.”
53 Full Intervention is the default standard of care and indicates a preference to provide all
54 medically indicated interventions. Limited Additional Interventions reflects a preference for
55 interventions to stabilize the medical condition, but avoid more aggressive measures such as
56 intubation and the intensive care unit. Comfort Measures orders direct providers to maximize
57 comfort through symptom management and avoid transfer to the hospital setting unless
58 comfort needs cannot be met. Although there are minor differences in the patient eligibility or
59 precise language on POLST forms,⁸ every state allows orders on POLST forms to be honored
60 across settings of care.

61 While there have been other studies examining POLST use,⁹ one large research study
62 focused on the use of POLST in nursing facilities has demonstrated that residents who elect
63 Comfort Measures are less likely to experience transfers to the hospital than residents with

64 Limited Additional Interventions or Full Treatment orders on POLST or code status orders
65 alone.¹⁰ In this same sample, the care provided was consistent with Comfort Measures orders
66 74% of the time. Transfers of residents with Comfort Measures orders were primarily prompted
67 by conditions that could not be safely managed in the nursing facility such as trauma related to
68 a fall or uncontrolled pain.¹¹ However, this previous work was limited to what was documented
69 in the medical record and data were only collected over a short period.

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

81 The overall goal of this analysis is to present a fuller, descriptive picture of long stay
82 nursing facility residents who transfer to the hospital in the setting of having clearly elected
83 comfort-focused care. Using the rich data available from the OPTIMISTIC project, we present
84 descriptive analyses of hospital transfer events of long stay nursing facility residents with
85 comfort measures orders. To complement these quantitative analyses, we also present insights

86 from interviews conducted with surrogate decision-makers of residents who had elected
87 comfort measures but who transferred to the hospital, as well as providers who were involved
88 in these transfer decisions.

89 **Methods**

90 Setting

91 The OPTIMISTIC demonstration project was approved by the appropriate Institutional
92 Review Board. Indiana was one of seven sites participating in this national Centers for Medicare
93 and Medicaid Services funded clinical demonstration project.^{19,20} Data were collected between
94 January 1, 2015 and June 30, 2016 in 19 nursing facilities, located in urban and suburban areas
95 of central Indiana (out of approximately 500 nursing facilities in the state). These sites
96 represent a mix of for-profit, not-for-profit, and county-owned facilities. In OPTIMISTIC, a
97 project nurse (RN) is assigned to each nursing facility to implement the OPTIMISTIC clinical
98 model, supported by project nurse practitioners (NPs) who cover multiple facilities.^{13,21,22} The
99 project RNs are embedded full-time (Monday through Friday, 8 AM-5 PM) in the facility to
100 respond to acute changes in condition of residents, facilitate advance care planning with
101 residents and families, and support the nursing staff of the facility through education and
102 mentoring. The project NPs provide clinical support through evaluations of residents experiencing
103 acute changes in condition and provide transitional care visits for residents who have returned
104 from the hospital. The OPTIMISTIC project RNs and NPs are responsible for documenting clinical
105 encounters and root cause analyses of transfer events in a database for monitoring and
106 evaluation of the intervention.

107 Participants

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

115 Quantitative Data Collection Procedures

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

128 Additional data describing resident characteristics were drawn from the mandated
129 Minimum Data Set 3.0 (MDS) assessment instrument,²⁶⁻²⁸ collected on all nursing facility
130 residents in Medicare and Medicaid-certified facilities. All MDS data were collected from the
131 closest comprehensive assessment prior to the date of transfer.

132 Quantitative Data Analysis

133 Residents' demographic characteristics and hospital transfer event data were analyzed
134 using descriptive statistics. For residents with multiple transfers and comfort measures orders,
135 the first hospital transfer was included in the analysis. Comparisons of residents with
136 potentially avoidable transfers vs. those whose transfers were found to be unavoidable were
137 analyzed using Fisher's exact test. Data were analyzed using SAS software, Version 9.4 of the
138 SAS System for Microsoft.²⁹

139 Qualitative data collection procedures

140 Participants in the qualitative interviews were family members or health care providers
141 involved in the decision to transfer. A total of eleven interviews, five family members and six
142 clinicians involved in transfer decisions, were completed. The clinicians included four interviews
143 with physicians, one with an OPTIMISTIC RN, and one with an OPTIMISTIC nurse practitioner
144 (NP).

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

149 if a family member was involved in the decision to transfer and which healthcare providers
150 were involved in the decision to transfer. Potential decision makers included healthcare
151 providers, the resident, surrogate decision makers including family, OPTIMISTIC RN, or
152 OPTIMISTIC NP.

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

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

164 Qualitative Analysis.

165 Research team members read all interview transcripts and discussed potential themes
166 in the data.³⁰ One of the authors created an initial coding list of themes after reviewing the
167 transcripts using NVivo qualitative software. All interview transcriptions were coded by at least
168 two members of the study team. Discrepancies were resolved and major themes affirmed
169 through team discussion and consensus.

170 **Results**171 Participants

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

176 Comfort measures Transfers

177 Of the 901 long-stay residents with an unplanned transfer, 20% (177/901) had comfort
178 measures orders indicated on a POST form at the time of the transfer. The mean number of
179 transfers for residents with comfort measures orders was 1.4 (SD=0.7) per resident. Most
180 transfers were triggered or requested by nursing facility staff (49.7%) or the resident's primary
181 care provider (20.3%). In 11% of transfers, the family or resident requested the transfer. About
182 14% of the transfers involved a 911 call. The most common clinical issues leading to transfer to
183 the hospital were falls, trauma, or fracture (32.8%), cognitive or behavioral changes (21.3%),
184 and respiratory symptoms (7.5%). **(Table 2)**

185 OPTIMISTIC RNs who conducted root cause analyses determined that 136 (77%) of the
186 transfers were unavoidable. They also identified opportunities for improvement in clinical
187 evaluation, clinical management or communication from a drop down list of categories.
188 Communication among nursing facility staff, or between staff and the resident/family, primary
189 care provider, or hospital was the most frequently noted area noted as needing improvement
190 (59.5%). The next most common category for improvement was inadequate or inconsistent

191 monitoring and lack of access to diagnostic procedures, treatments, and ancillary services
192 (36.5%), followed by pre-transfer assessments that were incomplete, inadequate, or not
193 provided (29.2%). (**Table 2**)

194 Qualitative Findings

195 When prompted to reflect on the reasons for the transfer event and the outcome for
196 the resident, participants identified multiple issues, including their own judgment now about
197 whether the transfer was a “good” or “bad” decision. They also discussed factors that were
198 important to decision-making regarding hospital transfers including communication among
199 stakeholders, capabilities of the nursing facility to provide needed assessment and care, clinical
200 situation such as symptoms, and clarity of goals of care. There were similarities in themes
201 identified by family members and clinical providers, as well as some differences based on their
202 perspectives.

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

206 When family members reflected back on the transfer experience and outcomes, some
207 reported feeling ambivalent, recognizing that they would likely face similar decisions in the
208 future: *“He’s just at the point that it’s just miserable for him, so keeping him comfortable now is
209 the goal, but you can only go so far, so is he comfortable at the hospital? Would he be
210 comfortable at the nursing facility? Wow. I honestly don’t know.”* Family members’ decisions to
211 advocate for a transfer were motivated in part because of a belief that the hospital offered

212 resources (e.g., diagnostic tools), and expertise (e.g., specialist physicians), that were needed
213 but not available in the nursing facility. As one family member remembered, *"I said mom, our
214 options are you stay here and you suffer, or we get you checked out and find out what is really
215 going on, and she said well then, what do you think? I said I'd like to know what's going on, and
216 then she reiterated, I don't want anybody cutting on me, but let's find out what's going on, so
217 that was the decision process."*

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

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

228 Physicians and NPs described relying on the facility nurse's clinical assessment and
229 information about current orders, such as preferences for medical treatment, when they were
230 not there in person and did not have direct access to the medical record. In the words of one
231 provider *"...if a nurse calls and wants the patient sent out and I don't necessarily know their
232 code status and if they don't feel comfortable handling that patient, I will generally do it."*
233 Another added, *"I don't have (electronic medical record) access to all those people when I'm*

234 *talking to the nurses in the evening, and if I'm not told that the person is comfort measures or*
235 *doesn't want to go to the hospital, typically I'm not going to remember that." One primary care*
236 *provider described how discordant views among multiple stakeholders coupled with lack of*
237 *familiarity with the resident's condition and preferences influenced the decision to transfer:*
238 *"Everybody was on different pages. I think the daughter really wasn't wanting him to be sent*
239 *out at that point but I think she was confused. I think the nurse was motivated to have him sent*
240 *out and the physician (on call) was just unaware of all of the other information." Some*
241 *providers highlighted their reliance on family members to drive these decisions: "it's a lot of*
242 *time related to the family, and if the family was as insistent as this daughter was, I probably*
243 *would do the same thing again."*

244 **Discussion**

245 These analyses provide insight on hospital transfer events and decision-making that
246 occurred in the setting of established, durable medical orders to focus on comfort measures.
247 When "comfort measures" is the documented preference for care, the expectation is that
248 hospitalization will be avoided if possible. Hospitalizations may still occur for these residents
249 and would be considered consistent with care preferences if the intent of hospital transfer is to
250 achieve comfort. In this mixed methods study, we found that the most common reasons for
251 transferring to the hospital are falls, trauma or suspected fracture and that most transfers of
252 residents with orders with comfort measures were considered unavoidable. Our qualitative
253 analysis highlighted that the decisions surrounding transfers of residents with comfort care
254 orders are complex and involve multiple stakeholders. In addition, family preferences at the
255 time that transfer is being considered drive decisions to transfer a patient out of the facility,

256 although there is ambivalence about which care setting best achieves comfort. Nurses
257 identified opportunities to improve or reduce transfers, including enhancing communication
258 among key stakeholders and promptly addressing acute changes in status.

259 There have been a limited number of studies examining whether treatments provided to
260 nursing facility residents with comfort measures orders are consistent with their goals. One
261 study utilized a standardized chart review process and found that treatments, including hospital
262 transfers, were consistent with preferences 74% of the time. Similar to our findings, trauma
263 related to falls was the most common reason for transfer of residents with comfort measures in
264 this study¹¹. While we did not explicitly measure whether transfer events were consistent with
265 resident goals of care, RNs embedded in the facilities and conducting root cause analyses felt
266 most transfers could not be avoided. Further, our findings are similar to with other work
267 describing rates of avoidability determined by RN raters doing root causes analyses.³¹

268 Several earlier qualitative studies have examined stakeholder perspectives on
269 transitions of nursing facility residents to the hospital. Inadequate communication among
270 families, residents, and providers³²⁻³⁴ as well as between nursing facility-based providers
271 nursing facility and ED clinicians³⁵⁻³⁸ have been cited as contributing to unnecessary nursing
272 facility transfers.^{32,36,38} Our findings support those of earlier studies in that RNs noted that poor
273 communication was involved in nearly 60% of transfers. The interviews underscored specific
274 challenges with communication that contributed to decisions to transfer residents to the
275 hospital. These issues included communication among family members who have conflicting
276 perspectives as to the resident's needs and preferences. Other factors that may have
277 contributed to hospital transfers included insufficient information about the resident's acute

278 clinical changes and treatment preferences available to providers, who often were not on-site
279 and were unfamiliar with residents. Knowledge of the patient and quality communication
280 among multiple stakeholders is essential to high quality transfers.^{39,40} Structured
281 communication tools for nurses and direct access to medical records have the potential to
282 enhance the quality of medical decision-making of providers who are evaluating a change in
283 condition via phone.^{13,34,38,41} Further, on-site availability of medical providers and rapid
284 recognition of changes in status allows staff and providers to address issues before symptoms
285 escalate or to initiate treatment early in acute illness.⁴²⁻⁴⁵

286 Even in the context of residents and families who have participated in structured ACP,
287 issues with family dynamics arise during acute medical events. Documentation of treatment
288 preferences can help guide decision-making, but some conflict may be unavoidable in stressful
289 situations that involve multiple stakeholders.⁴⁶ As other studies have demonstrated providers
290 often defer to surrogate decision-makers and identify surrogate preference as the most
291 significant influence in the decision to transfer.^{47,48} Our findings support other work that has
292 described documentation of treatment preferences as important groundwork, but identified
293 that how nurses and physicians respond to acute events and talk with family members drives
294 decision-making.⁴⁸ Family members in our study indicated that their decisions to transfer
295 often followed recommendations they received from nursing facility staff.

296 Limitations to these analyses include a lack of specific detail as to how comfort
297 measures orders were communicated and considered during all transfers. Nursing facility
298 residents participating in the OPTIMISTIC demonstration project have access to quality ACP
299 facilitation through the trained OPTIMISTIC RNs; thus results may not be generalizable to

300 transfers that occur in other facilities. All nursing facilities included were participating in a
301 multi-component intervention designed to reduce avoidable hospital transfers and thus may
302 have a heightened focus on hospitalizations compared to other facilities. Further, we did not
303 have access to Medicare claims data and reasons for hospitalizations were abstracted from the
304 medical record by project clinical staff. Interviews were conducted with a small sample of
305 providers and family members involved in transfers.

306 **Conclusions and Implications**

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

313 **Conflicts of Interest** – KU is CEO and Founder of Care Revolution, Inc., a program to train nurses
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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 [†]
Length of stay at transfer (days), mean ± SD	793.7 ± 627.7
Transfers per resident, mean ± SD	1.4 ± 0.7
Age at transfer, mean ± SD	83.2 ± 9.0
Female, %	127 (71.8%)
Race, % (n=177)	
Non-Hispanic white	146 (82.5%)
African American*	28 (15.8%)
Hispanic*	3 (1.7%)
Diagnosis, %^{a 12,15} (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, %^{a 15} (n=177)	7 (4.0%)
Activities of daily living self-performance, mean ± SD^{a,b} (n=172)	19.4 ± 3.2

[†] Comfort measures status as determined by OPTIMISTIC RN at the time of transfer

SD= standard deviation

* Not mutually exclusive

^a From the most recently available Minimum Data Set (MDS) assessment prior to transfer for each resident. ^b Bed mobility, transfer, locomotion on unit, dressing, eating, toilet use, and personal hygiene. potential scores range from 0 (independent) to 28 (total dependence) ⁴⁴.

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 [†]
Was transfer avoidable per OPTIMISTIC RN?^d (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^e (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 labs	3 (1.7%)
Urinary symptoms	2 (1.2%)
Time of transfer	
Weekday (during OPTIMISTIC coverage; 8 a.m. – 5 p.m.)	68 (39.1%)
Weekday evening (5 p.m. – 12 a.m.)	36 (20.3%)
Weekday night (12 a.m. – 8 a.m.)	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%)
○ <i>Resident's PCP</i>	77 (43.5%)
○ <i>Resident's primary care NP</i>	31 (7.5%)
○ <i>On-call physician</i>	14 (7.9%)
○ <i>On-call physician NP</i>	9 (5.1%)
○ <i>OPTIMISTIC NP</i>	3 (1.7%)
○ <i>Unspecified medical provider</i>	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 prior to transfer^f	
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%)

^d As assessed by OPTIMISTIC RN during root cause analysis

^e See Table 3 for detailed information on symptom categories

^f Responses included one or more of these options, so numbers add up to more than 100%.