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Hospital discharge and selecting a skilled nursing facility: A comparison of experiences and perspectives of patients and their families

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Abstract

Purpose of Study—A currently proposed rule by the Centers for Medicare & Medicaid Services (CMS) would require providers to devote more resources to discharge planning from hospitals to ensure the prioritization of patient preferences and goals in the discharge planning process. Annually, more than 3 million persons enter a nursing home in the United States, with the vast majority of patients coming directly from hospitals. Although early evidence suggests more family involvement than patient involvement in the discharge process, most of this work has relied on retrospective reports of the decision making process post-placement. This paper seeks to

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examine and compare the experiences and perspectives of patients and others involved in the selection of the nursing home (predominately adult children and spouses).

Primary Practice Setting—Large academic medical hospital with patients being discharged to a skilled nursing facility.

Methodology and Sample—225 patients or their family members and involved others who completed an exit survey assessing their experiences and perspectives in selecting a skilled nursing home and in the discharge process more generally.

Results—Patients were the primary decision makers about 23% of the time, but were often involved in the decision even when family members/involved others were primarily making decisions in the discharge process. Although patients were involved in the selection of the nursing home to a lesser degree than involved others, their level of satisfaction with the decision to be discharged to a skilled nursing home and their level of satisfaction with their personal level of involvement with the selection of the specific nursing home did not differ from the satisfaction ratings of the involved others. Furthermore, their confidence in the decision and their satisfaction with the decision did not differ from ratings provided by family members/involved others.

Implications for Case Management Practice—Recommendations for case management practice include (1) encouraging patients and their families to take an active role in the discharge process; (2) incorporating technology into the discharge process that promotes this level of engagement; and (3) facilitating access to available data to promote discharge to the highest quality nursing homes available.

Keywords

Skilled nursing facility; Hospital discharge; Nursing Home Compare; Quality report cards; Patient centered outcomes

Introduction

In any given year, more than 3 million persons enter a nursing home in the United States, with the vast majority of patients, about 90%, entering a nursing home from the hospital ("Authors calculations from the Minimum Data Set ", 2016). Hospitals are required to provide a discharge plan developed by a registered nurse, social worker, or other qualified professional to ensure that patients receive high-quality care following discharge. Effective and efficient discharge planning is a key component of a hospital's effort to control length of stay and cost (Birmingham, 2009).

Discharge planning activities involve the medical team, particularly the hospital discharge planners or case managers (terms often used interchangeably in hospitals), and include assessing whether or not the patient should be discharged directly to home, with or without homecare, or if the patient requires additional care at a skilled nursing facility or another facility on a short-term or long-term basis. Furthermore, the discharge planning process often requires the extensive involvement of the patient, family members and friends, and sometimes other acquaintances (Castle, 2003; Travis & McAuley, 1998).

The process of searching for and selecting a nursing facility is complex (McAuley & Travis, 1997). Selection of a particular skilled nursing facility depends on a number of factors, including: (1) the location of the facility and proximity to the resident's home or the home of family members; (2) availability of services that the patient requires; (3) facility costs and insurance coverage; (4) the quality of care; and (5) the willingness of the facility to accept the patient. Nurse case managers are required to provide each patient with a list of nursing homes in the specific geographic area requested by the patient, but are not required to provide any information about the quality of nursing homes. In fact, nurse case managers are not allowed to steer patients to a specific nursing home, although they are not prohibited from providing information about quality or making patients and families aware of federal nursing home report cards, like Nursing Home Compare (NHC), and discussing the information such report cards provide with patients and families (Raffa, 2012).

In an effort to educate patient and families about options to consider when selecting a nursing home and to involve them to a greater degree in the discharge process, we developed an iPad based app, called NHCPlus (for sample screen shots see Figures 1–3). This app allows patients and families to create personal composite measures based on their own medical needs and preferences based on the quality measure (QM) information available in the federal report card, NHC. NHCPlus has three modules: 1) an educational module that provides information to users about each of the quality measures, staffing and health inspections measures, and their implications for nursing home residents; 2) a preference elicitation module that allows users to identify the measures they wish to include in their composite and their relative importance; and 3) a results module that combines the user's ranking of the QMs with the CMS published values for each QM to obtain the individualized composite quality score, and provides a sorted list of nursing homes in the users' choice sets and the quality measure scores for each of these nursing homes. Once the user is satisfied with the sorted list of nursing homes, the user sends the list electronically to the discharge planner who proceeds to place the patient using the list created by the patient. For more details on app design and additional sample screen shots, please see Sorkin et al. (2016). Compared to individuals who went through the usual discharge process, users of NHCPlus were more satisfied with the choice process, more likely to go to higher quality nursing homes (as ranked by NHC stars), and had a shorter hospital stay (Mukamel, Amin, Weimer, Ladd, et al., 2016).

The Current Study

A currently proposed rule by the Centers for Medicare and Medicaid Services (CMS) would require providers to devote more resources to discharge planning from hospitals to ensure the prioritization of patient preferences and goals in the discharge planning process ("CMS proposes prioritizing patient preferences, linking patients to follow-up care in discharge planning process," 2016). Prior research examining skilled nursing home selection suggested that the family was typically more involved than the patient (Castle, 2003; McAuley & Travis, 1997; Reinardy & Kane, 1999). Most of this work has relied on retrospective reports of the discharge process post-placement, and has not examined the decision making process in real time. Furthermore, these studies have been done prior to the availability of the federal NHC quality report card, which might have changed the discharge process and its dynamics.

In particular, the current emphasis on patient-centered care (Joosten et al., 2008), while recognizing the family as the patient surrogate in decision making when the patient is unable to make decisions, increases the interest in examining the role of patients in making the nursing home placement choice vis-a-vis their family and involved others.

In this study, we examined the role of the patient versus family and involved others (predominately adult children and spouses) in the placement process. We compared their experiences and perspective within a day or two of having made the decision, and just prior to the hospital discharge. Finally, because this study was conducted within the context of a randomized controlled trial with an intervention, we sought to examine whether access to NHCPlus differentially impacted the experiences of patients compared to patients without access.

Methods

Participants and Recruitment

Participants were recruited from the University of California, Irvine Medical Center, Departments of Medicine and Surgery, between March 2014 and August 2015. As soon as the medical team informed a patient that a nursing home discharge was needed, a research coordinator approached the potential patient or his or her family (if the patient was unable to consent) to recruit and consent the patient. All participants completed an informed consent form and a Health Insurance Portability and Accountability Act (HIPAA) waiver to allow a review of their medical record.

A total of 323 individual were approached to participate in the study. Two hundred and twenty-nine were determined eligible to participate because they were discharged to a nursing home; however, four people were later excluded because of their observational status in the hospital (N=225). Patients were randomized by research staff to the intervention (118 patients received NHCPlus) or to the usual care only arm (107 patients).

Study Comparators

Nursing Home Compare Plus Discharge Process—For patients randomized to NHCPlus, the project coordinator secured an iPad to the patient's bed, provided an overview of NHCPlus and how to use the iPad, and started the patient or the family on the app. Patients and their families (the users) were allowed to interact with the app until a nursing home was selected, a process lasting anywhere from a few hours to a few days. Often NHCPlus was used by patients together with their families, or by the families alone.

Usual Discharge Process Only—The usual discharge process involves informing patients and their families of the provider recommendation that the patient be discharged to a skilled nursing facility, at which time a list of nursing homes is provided, and the patient and family are instructed to make a choice. Typically patients and families are not offered any information about the nursing homes on the list, except for address and phone number. More details about NHCPlus and the RCT are reported in Sorkin et al (2016).

Measures

The measures reported on in this manuscript were derived from two primary sources: the patient electronic medical record and an exit survey administered at the time the patient was leaving the hospital to the nursing home. Medical record data for all 225 patients were obtained. Of the 225 study participants, 196 responded to the exit survey; 29 (13%) did not complete the exit survey, with equal attrition rates from both the usual process and NHCPlus groups.

Medical records—These data included admission and discharge dates, MS-DRG codes, primary and secondary diagnoses and procedure codes, date of birth, gender, zip code of residence, the nursing home that the patients were discharged to, and the name of the patients' discharge planners.

Exit Survey—The exit survey was primarily conducted just prior to discharge from the hospital, with 89% of the sample (n=175) completing the survey either on the day of, or 1-day prior to, leaving the hospital. However, 11% of respondents (n=21) completed the exit survey after being discharged from the hospital. For these individuals, the study team called them within a week of discharge (mean of 2.9 days, standard deviation of 1.8 days). The exit survey included assessments of the following constructs:

Involvement, Satisfaction, and Confidence in Nursing Home Selection—

Satisfaction with the decision to discharge to a nursing home rather than to return home was assessed with a single item. Respondents were asked to rate on a 5-point scale (1= not at all happy; 5=extremely happy) how happy they were with the decision to [go to or send (name of patient) to] a nursing home rather than [your or (name of patient's)] former residence. Level of involvement was assessed by a single item that asked respondents "On a scale of 1–10, with '1' being 'not at all involved' and '10' being extremely involved, how involved were you in the selection of (fill in name of the nursing home)?" Respondents were then asked how happy they were with "your level of involvement in the selection of (name of nursing home)" with rating made on a 5-point scale (1= not at all happy; 5=extremely happy).

In order to assess the level of interaction between the patient and family/involved others in the selection of the nursing home, patients were asked "on a scale of 1–10, with '1' being 'not at all involved' and '10' being 'extremely involved', how involved were *your family and/or friends* in the selection of [fill in name of nursing home]?" If a non-patient was responding to the exit survey he or she was asked "on a scale of 1–10, with '1' being 'not at all involved' and '10' being 'extremely involved', how involved was *the patient* in the selection of [fill in name of nursing home]?" Both groups were then asked to think about how much involvement they would have wanted, and to rate the [patients or family/friends'] level of involvement in the selection of the nursing home. Responses included the following: (1) much more involved than you wanted, (2) more involved than you wanted, (3) involved at the level you wanted, (4) less involved than you wanted, and (5) much less involved than you wanted? And then both groups rated their level of satisfaction with the [patients or

family/friends] level of involvement in the selection of the nursing home, with ratings made on a 5-point scale (1= not at all satisfied; 5=extremely satisfied).

To assess decisional conflict/confidence in the decision, respondents were asked five questions addressing decision uncertainty, specific factors contributing to the uncertainty, and perceived effectiveness of the decision-making. For example: “The decision to select [fill in name of the nursing home] was hard for me to make.” Items were adapted from O’Connor (1995) and Wills and Holmes-Rovner (2003). Ratings were made on a 5-point scale (1 = *strongly agree*, 5 = *strongly disagree*). Responses were reverse coded if needed and averaged to create one variable representing greater confidence in the decision (Cronbach’s $\alpha=0.56$).

Satisfaction with the decision to discharge to the selected nursing home was assessed using a 5-item scale adapted from Wills and Holmes-Rovner (2003). For example: “I am satisfied with my decision to go to [fill in name of the nursing home].” Ratings were made on a 5-point scale (1 = *strongly agree*, 5 = *strongly disagree*). All responses were reverse coded and averaged. The scale exhibited good internal consistency (Cronbach’s $\alpha=0.84$).

Information Seeking and Prior Experience—Respondents were asked whether they sought each of the following kinds of information: 1) spoke with another person; 2) searched on the internet; 3) called nursing homes; and 4) visited nursing homes. The response options were yes/no. Respondents were also asked whether or not they had prior experience in selecting a nursing home, for self or for another person. The response option was yes/no.

Nursing Home Quality—Nursing home quality was assessed using the overall 5-star score rating system available on the federal report card, Nursing Home Compare. Analyses accounted for the overall quality of the nursing homes within the chosen geographic area. Specifically, an indicator variable was defined for each patient that assumed the value ‘1’ if patients were discharged to the nursing home with the highest rating among all nursing homes in their geographic area (i.e. their choice set), and ‘0’ otherwise. The choice set for the NHCPlus group was defined by the users, as part of using the app. Because this information was not available for users in the usual care study arm, their zip-code of residence, obtained from the medical record, was used to impute their search radius conditional on the zip code. For more details, see Mukamel et al (2016).

Satisfaction and Confidence in Quality of Care Received at UCIMC—Three items assessed the extent of the effort by the case manager to include the respondent in the decision making process. Items were adapted from an instrument designed to assess provider-patient participatory decision making (Choi et al., 2016; Kaplan, Greenfield, Gandek, Rogers, & Ware, 1996). A sample item includes the following: “How often did the Case Manager make an effort to include you in the decision to go to a nursing home?” Ratings were made on a 5-point scale (1 = *always*, 5 = *never*). All responses were reverse coded and averaged. A single-item was used to assess respondents’ overall satisfaction with the quality of care received during their hospital stay. Ratings were made on a 5-point scale (1 = *always*, 5 = *never*), and reverse coded to indicate higher levels of satisfaction. The scale exhibited good internal consistency (Cronbach’s $\alpha=0.84$).

Analyses

We used Stata Version 14.1 (College Station, TX) to conduct data analyses. Descriptive statistics (e.g. Chi-square and t-tests) were generated to examine the socio-demographic characteristics of the study sample by responder--patient or other. For each outcome, we then compared the mean responses of patients versus others using either linear regression in the case of an interval variable outcome or logistic regression in the case of a binary response variable. A priori, we included in the adjusted models an indicator variable for treatment group (Nursing Home Compare Plus Discharge Process versus usual discharge process only), as well as other covariates to account for the differences in the health status of the patients who respond for themselves versus those who involved another person, such as general health of the patient prior to hospitalization, length of stay in the hospital, case mix index ([CMS.gov](https://www.cms.gov)), as well as respondent age, ethnicity, marital status, and level of education. All models were tested for an interaction between responder and treatment group, but in all cases, none of these interactions were significant; thus, the models presented do not include this interaction. Two-tailed p values less than or equal to 0.05 were considered statistically significant.

Results

The socio-demographic characteristics of the sample are presented in Table 1. Patients were significantly older than other individuals involved in the discharge process who responded to the exit survey ($P < 0.001$). Patients were also more likely to be non-Hispanic white ($P = 0.002$), widowed or divorced ($P < 0.001$), and less educated ($P = 0.03$) compared to other individuals who were involved in the discharge process and responded to the exit survey. The patient length of stay was shorter for patients who answered the exit survey themselves compared to the length of stay for patients for whom others answered the exit survey (6.5 days compared to 8.6 days, $P = 0.02$), although there were no statistically significant difference in patient case mix index by response status ($P = 0.11$). The individuals who answered on behalf of the patient were most likely to be adult children (57.6%) or spouse/partners (29.8%).

Table 2 compares the patient experiences to the experience of others who were involved in the selection of the nursing home. As noted, there were no differences in the level of satisfaction with the decision to be discharged to a nursing home (rather than to their home, for example) between patients and involved others in either the multivariable models that adjusted for included covariates. When asked about the level of their own involvement, patients, on average, reported being less involved personally in the selection of the nursing compared to involved others (mean level of self-involvement = 8.5 *rating from patient* versus 9.3 *rating from involved other*; coefficient = 1.23, $P = 0.000$), although patients and involved others reported being similarly satisfied with their personal level of involvement. When asked about the involvement of either others (when the patient was the primary decision maker) compared to the patient (when an involved other was the primary decision maker), perhaps not surprisingly, patients were more likely to indicate that others had been involved in the decision, whereas involved others were less likely to indicate that the patient has been involved (mean level of other/patient involvement = 4.5 *rating from patient* versus

3.2_{rating from involved other}; coefficient = -1.68, P= 0.02). Involved others were more likely to indicate that the patient was less involved than they had wanted (mean level of desired involvement=3.2_{rating from patient} versus 3.5_{rating from involved other}; coefficient =0.56, P= 0.002), although both patients and involved others indicated that they generally would have wanted greater involvement of the other person. Patients reported being more satisfied with the involved others' level of involvement compared to involved others' ratings of patient involvement (mean level of satisfaction with other involvement=4.0_{rating from patient} versus 3.4_{rating from involved other}; coefficient = -0.66, P= 0.008)

Patients and involved others reported high levels of confidence in their decision to be discharged to the selected nursing home, and high levels of satisfaction with their decision to be discharged to the selected nursing home, and there were no statistically significant differences between the two groups. In general, the primary reason for selecting a given nursing home was that it was close to the patient's home. The only significant difference between patients' reasons and involved others' reasons was the recommendation of someone else, which was more commonly reported by involved others (aOR=7.54, p= 0.033). Some of the responses in the other category included the following: cleanliness of the facility, reputation, exterior look, Spanish- or Vietnamese speaking, and having a limited choice due to insurance.

As noted in Table 3, compared to patients, other individuals who were involved in the discharge process and responded to the exit survey were much more likely to seek information about skilled nursing homes by speaking to another person, looking on the internet, and calling or visiting the nursing home. Although patients were more likely to report having had a prior experience in selecting a nursing home compared to involved others (39.5% versus 26.4%), this difference was not statistically significant. As shown in Table 4, both patients and involved others reported high levels of satisfaction with the efforts of the case manager to include the respondent in the decision (mean=4.4 versus 4.4) and their overall satisfaction with care (mean=4.8 versus 4.5), and the differences between the patient and involved other were not significantly different from each other.

Discussion

The healthcare landscape is dramatically changing, and as the nation's elderly population increases, the demand for skilled nursing services will also increase. There is very little current research examining the process by which a nursing home selection is made, and the few studies that exist to date typically use a retrospective approach, asking patients and families to reflect on the process substantially after discharge (Castle, 2003). The current study takes a marked shift from these past approaches by studying the discharge process and the decision making process temporally close to the discharge, allowing for the examination of how the process was experienced by patients versus involved others.

Similar to prior studies, we found that patients were the primary decision makers about 23% of the time, but were involved in the decision to a significant extent even when involved others were primarily making the decision. This pattern of involvement was true for users of the NHCPlus mobile application as well: 16 percent were patients who used the NHCPlus

mobile app by themselves, 62 percent were family members who used it by themselves, and 22 percent used it jointly (Mukamel, Amin, Weimer, Sharit, et al., 2016). Thus, bringing the technology to the bedside did not dramatically increase patient involvement, suggesting that patient condition might be the bigger barrier or that the decision regarding nursing home placement is generally viewed as a family decision/joint decision culturally. Nonetheless, even though patients were involved in the selection of the nursing home to a lesser degree than the involved other, their level of satisfaction with decision to be discharged to a skilled nursing home (rather than home) and their level of satisfaction with their personal level of involvement with the selection of the specific nursing home to which they were discharged did not differ from the satisfaction ratings of the involved others. Furthermore, their confidence in the decision and their satisfaction with the decision did not differ from these ratings provided by the involved others.

The literature suggests that there are a number of influential factors that contribute to the selection of a given nursing home, including location, reputation in the community, clinical quality of care, religious affiliation, and amenities/cleanliness (Castle, 2003). Our findings mirror these in that location to the patient's home was noted as being the most important factor; however, we have also shown that patients and their families are willing to travel further distances from their homes in order to select a higher quality nursing home (Mukamel, Amin, Weimer, Sharit, et al., 2016; Sorkin et al., 2016). Information on the clinical quality of care was also cited as a common reason for selecting a particular nursing home, although this number may have been inflated by the experience of having participated in this study. Not surprisingly, involved others were much more likely to seek out additional information from other people or the internet, and call and/or visit the nursing home compared to patients. Even given the differences in the level of involvement between patients and involved others, there were no significant differences in overall ratings of the case manager's effort to include the patient and family in the decision making process, and in overall satisfaction rates in care with the hospital. Taken together, these findings suggest that patients and involved others not only can be involved in making discharge-related decisions, but also suggests that the experiences of involved others mirror those of the patient.

There are several limitations to the current study. First, the data collection and statistical analysis was not done in pairs ("or dyads"), and therefore a direct comparison between a patient and that patient's family/other could not be made. Although we did statistically adjust for the health status differences between patients who were able to respond on their own from those that required family involvement, there are likely other variables that distinguish whether or not involved others participated in the decision making process, like their geographic location or the quality of family relationship, that we were not able to consider. Nonetheless, understanding the complex dynamics of family involvement in discharge planning decision making is an important future step. Second, as information technology changes further, for example, if and when patients would be able to make a virtual tour of the nursing home from their hospital bed, the balance between patients and families in the decision making process might change. Nonetheless, this study provides important insight into the discharge process by assessing decision satisfaction at the time the decision was made.

As hospitals respond to the mandate for including more resources to discharge planning from hospitals that specifically ensure the prioritization of patient preferences and goals in the discharge planning process, technological solutions that bring important information to the bedside may potentially change the way patients and their families choose the best nursing home to meet their needs. The CMS quality initiative to measure and make public quality evaluations of all nursing homes in the country, coupled with information technology that brings the information to the patient bed, offers more opportunities for both patients and their families to access this information and make better choices. While our research and others suggest that family members may generally be more involved in the discharge process (Konetzka & Perrailon, 2016), the findings from this study suggest that, when presented with these opportunities, patients and their families generally react to these opportunities similarly.

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QUOTES

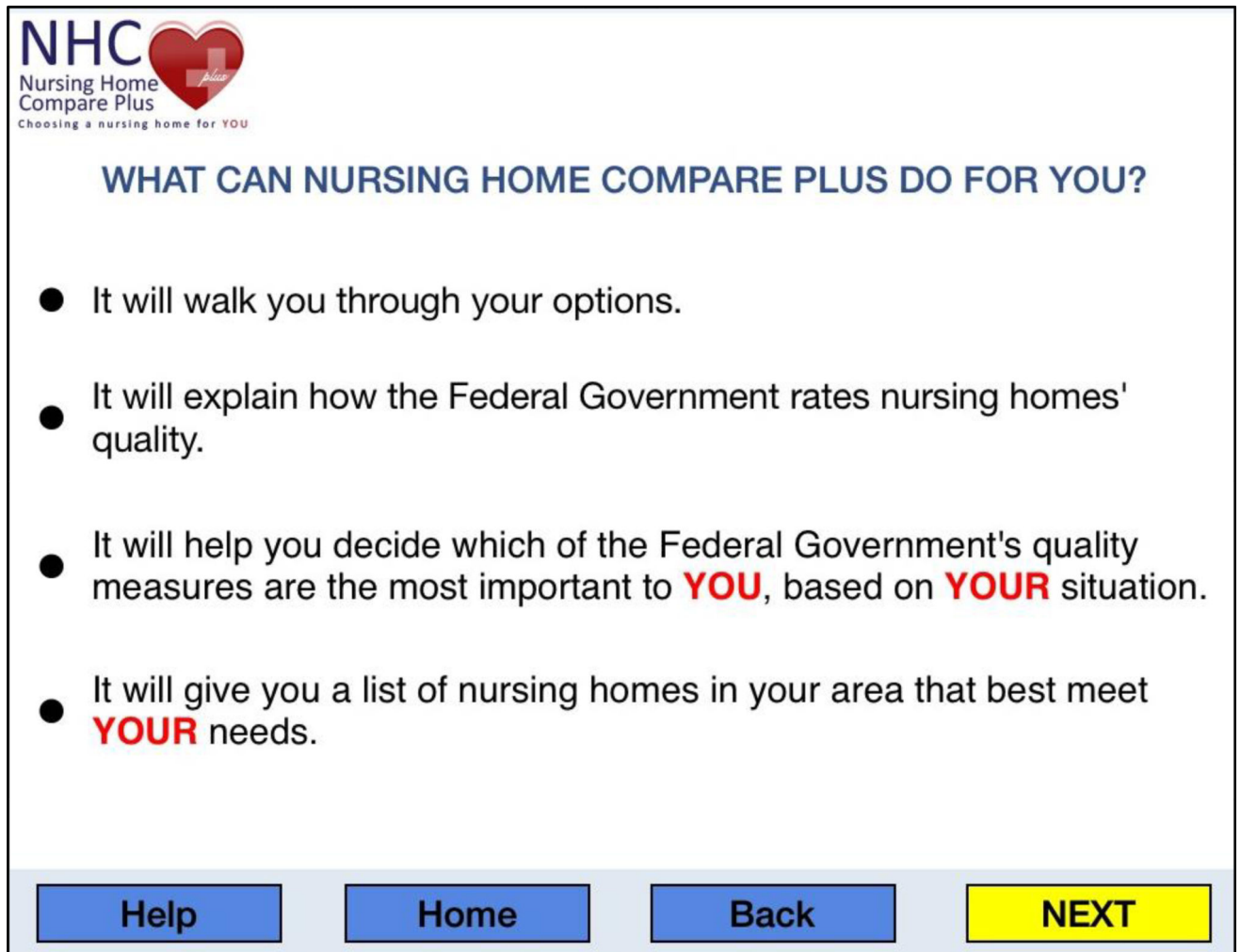
In this study, we examined the role of the patient versus family and involved others (predominately adult children and spouses) in the placement process. We compared their experiences and perspective within a day or two of having made the decision, and just prior to the hospital discharge.

In general, the primary reason for selecting a given nursing home was that it was close to the patient's home.

Similar to prior studies, we found that patients were the primary decision makers about 23% of the time, but were involved in the decision to a significant extent even when involved others were primarily making the decision.

Taken together, these findings suggest that patients and involved others not only can be involved in making discharge-related decisions, but also suggests that the experiences of involved others mirror those of the patient.

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The screenshot shows the top section of the Nursing Home Compare Plus website. At the top left is the logo for NHC (Nursing Home Compare Plus) with a red heart icon containing a white cross and the text "NHC Nursing Home Compare Plus Choosing a nursing home for YOU". Below the logo is the heading "WHAT CAN NURSING HOME COMPARE PLUS DO FOR YOU?". Underneath the heading is a bulleted list of four points. At the bottom of the page are four navigation buttons: "Help", "Home", "Back", and "NEXT". The "NEXT" button is highlighted in yellow, while the others are blue.

NHC
Nursing Home
Compare Plus
Choosing a nursing home for YOU

WHAT CAN NURSING HOME COMPARE PLUS DO FOR YOU?

- It will walk you through your options.
- It will explain how the Federal Government rates nursing homes' quality.
- It will help you decide which of the Federal Government's quality measures are the most important to **YOU**, based on **YOUR** situation.
- It will give you a list of nursing homes in your area that best meet **YOUR** needs.

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Figure 1.
Description of Components of the Nursing Home Compare Plus

NHC
Nursing Home
Compare Plus
Choosing a nursing home for YOU

NURSING STAFF

Nursing staffing level is a general measure of the quality of care in the nursing home. Nursing homes with more staff can provide better care. Those that care for sicker patients need even more staff. However, it is important to remember that having a lot of staff does not guarantee better care in all areas. It is therefore important to also consider the specific quality measures that are important to **YOU**.

SOMETHING TO THINK ABOUT:

What else is important to know about nurse staffing?

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Figure 2.
Example from Education Module

YOUR LIST OF 7 NURSING HOMES

Quality Scores				
Short Stay	+Long Stay	Distance (miles)	Nursing Home Name	Address & Phone Number
11.3	N/A	3.5	LOMITA POST-ACUTE CARE CENTER	1955 W. LOMITA BLVD, LOMITA, CA, 90717 (310)325-1970
3.7	11.2	3.7	SEACREST CONVALESCENT HOSPITAL	1416 WEST 6TH STREET, SAN PEDRO, CA, 90732 (310)833-3526
2.6	N/A	3.7	PROVIDENCE LITTLE COMP OF MARY	1322 WEST SIXTH STREET, SAN PEDRO, CA, 90732

Sort by +Long Stay

To select nursing homes to compare, touch up to 3 names at a time and then touch the COMPARE button

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Figure 3.
Sample Rankings of Nursing Homes: Inclusion of Short-Stay and Long-Stay Quality Measures

Table 1

Sociodemographic characteristics of the patients and the family members – only those who answered the exit survey

	Patient (n=45)	Involved Other (n=151)	P-value
Relationship to Patient (%)			N/A
Spouse or partner	N/A	29.8	
Adult child	N/A	57.6	
Grandchild	N/A	3.3	
Parent	N/A	1	
Sibling	N/A	2	
Other relatives	N/A	6.6	
Length of time known patient, mean years (SD)	N/A	46.1 (13.6)	N/A
Age, mean years (SD)	69.5 (9.6)	56.0 (14.4)	<0.001
Gender, % female	60.0	59.6	0.96
Racial/Ethnic Background, %			0.002
Hispanic	15.6	27.8	
White	62.2	53.0	
African-American or Black	11.1	2.7	
Asian, Native Hawaiian, or Pacific Islander	6.7	14.6	
Native American or Alaskan Native	0	1.3	
Mixed racial background	4.4	0	
Refused	0	0.6	
Education Level (%)			0.03
Less than high school	20	6.7	
High School or Equivalent (9–12)	31.1	38.4	
More than high school	48.9	54.3	
Refused	0	0.6	
Marital status (%)			<0.001
Married	28.9	73.3	
Living with a partner	2.2	1.3	
Widowed	22.2	0	
Divorced	18.9	6.7	
Separated	8.9	3.3	
Never married	8.9	14.7	
Refused		0.7	
Patient Health Status Prior to Hospital Stay (%)			0.84
Excellent	4.4	8.8	
Very good	13.3	14.9	
Good	35.6	23.7	
Fair	22.2	28.4	
Poor	24.4	24.3	

	Patient (n=45)	Involved Other (n=151)	P-value
Length of stay in hospital, mean days (S.D)	6.5 (4.6)	8.6 (5.8)	0.02
Case mix index, mean (SD)	2.2 (1.6)	2.8 (2.1)	0.11

N/A = Not applicable.

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Table 2

Satisfaction and Confidence in Nursing Home Selection

	Patient Mean (SD)	Involved Other Mean (SD)	Multivariable Model, Estimated Difference Coefficient
Satisfaction with decision to send self/patient to nursing home rather than home scale range	3.3 (1.0)	3.6 (1.2)	0.33
Personal level of involvement with selection of the nursing home to which the patient was discharged what is the scale?	8.5 (1.9)	9.3 (1.4)	1.23**
Satisfaction with personal level of involvement with the selection of the nursing home	3.7 (1.0)	4.0 (1.0)	0.28
Other level of involvement with selection of the nursing home [†]	4.5 (4.0)	3.2 (3.2)	-1.68*
Other desired level of involvement with the selection of the nursing home [†]	3.2 (0.7)	3.5 (0.9)	0.56**
Other satisfaction with involvement [†]	4.0 (1.0)	3.4 (1.1)	-0.66**
Confidence in decision	3.8 (0.6)	3.9 (0.7)	0.07
Satisfaction with decision	4.1 (0.7)	4.2 (0.6)	0.18
Reasons for selecting a nursing home – multiple reasons allowed	% yes	% yes	<i>Estimated Odds Ratio (OR)[∞]</i>
Close to patient home	55	41	0.46
Close to loved one's home or work	2	4	n/a
Special services available	14	17	0.85
Prior experience	9	5	n/a
Physician recommended	0	4	n/a
Discharge planner suggested	5	2	n/a
Someone else recommended	5	14	7.54*
NH Compare website	18	23	0.68
NHCPlus	14	14	n/a
Other	41	52	1.56

[†]Survey respondents were asked to consider the level of and satisfaction with the other person's involvement in the decision making process. Specifically, patient respondents were asked to think of the involvement of family and friends, and other respondents were asked to think of the patient involvement.

[∞] Full models could not be run because of one or more of the covariates predicted the outcome perfectly.

* P<0.05;

** P<.001.

Adjusted analyses included the following variables as covariates: treatment (intervention or usual care), general health status of patient prior to hospital admission, length of stay in hospital, DRG, and respondent age, ethnicity, marital status, and level of education.

Table 3

Information Seeking and Prior Experience

	Patient	Involved Other	Multivariable Model, Estimated Odds Ratio (OR)
	% yes		Coefficient
Did speak to another person?	18.6	53.7	10.25*
Did look on internet?	37.2	73.7	2.45
Did call a nursing home?	7.1	43.9	8.99*
Did visit a nursing home?	7.0	51.0	11.65*
Prior experience in selecting a nursing home?	39.5	26.4	0.66

*
P<0.05

Adjusted analyses included the following variables as covariates: treatment (intervention or usual care), general health status of patient prior to hospital admission, length of stay in hospital, DRG, and respondent age, ethnicity, marital status, and level of education.

Table 4

Satisfaction and Confidence in Quality of Care Received at UCIMC

	Patient	Involved Other	Multivariable Model, Estimated Difference
	Mean (SD)		Coefficient
Effort of CM to include respondent in decision	4.4 (1.1)	4.4 (1.1)	-0.13
Overall satisfaction with care in hospital	4.8 (0.6)	4.5 (0.9)	-0.20

*
P<0.05

Adjusted analyses included the following variables as covariates: treatment (intervention or usual care), general health status of patient prior to hospital admission, length of stay in hospital, DRG, and respondent age, ethnicity, marital status, and level of education.

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