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## The Role of Social, Economic, and Physical Environmental Factors in Care Planning for Home Health Care Recipients

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### Abstract

Social, economic, and environmental factors contribute to patients' recovery following hospitalization. However, little is known about how home health nurses make decisions based on their assessment of these factors. The purpose of the current study was to explore the nonclinical factors that home health nurses evaluate and describe how these factors influence care planning decisions. Semi-structured interviews conducted with 20 visiting nurses from three home health agencies were analyzed using conventional content analysis. Three nonclinical factor themes emerged: *Social Support*, *Home Environment and Neighborhood*, and *Finances and Insurance Barriers*. Nurses' assessments guided them to include family caregivers in the plan of care, evaluate their own safety to complete home visits, and refer patients to useful resources. Findings highlight the role of home health nurses in supporting older adults with limited resources and the need to address the social determinants of health across the care continuum.

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## Keywords

Home health care; family caregiver; social determinants of health; care planning; qualitative research

In the United States, the majority of home health care services are provided to adults age  $\geq 65$  years with complex medical and social needs (Murtaugh et al., 2009). Among a national sample of Medicare beneficiaries receiving home health services, 85% have three or more chronic conditions, 32% have two or more functional limitations, 37% live alone, and 31% have incomes below the federal poverty level (Avalere Health, 2017). The rate of patient referrals to home health services is expected to gradually increase given the rising numbers of community-dwelling older adults living with chronic conditions. Concurrently, the Patient Protection and Affordable Care Act (ACA) (Public Law 111–148) encourages the provision of home- and community-based services to keep people in their communities for as long as possible. This increase in need for home health services will engender further considerations for home health agencies to provide optimal care to their growing population within limited resources. Therefore, it is important to further explore the complex needs of older home health recipients and highlight how nurses address those needs and take a holistic approach to care for this population.

Clinical factors play a central role in clinical decision-making and are thoroughly assessed by home health nurses using the Outcome and Assessment Information Set (OASIS), which is an assessment tool required of all home health agencies certified to accept Medicare and Medicaid payments (Centers for Medicare & Medicaid Services, 2019). Every day, home health nurses make treatment decisions based on a comprehensive assessment of patients' clinical needs and the status of their support systems (Irani, Hirschman, Cacchione, & Bowles, 2018; O'Connor, Moriarty, Madden-Baer, & Bowles, 2016). Although some of the OASIS items also target nonclinical domains such as living arrangements and caregiver support, little is known about specific social and physical environmental factors that nurses assess, and how their assessment guides their clinical decisions. Nevertheless, home health nurses are well-positioned to identify and address areas of instability in their patients' environments.

Patients receiving skilled home health care are expected to assume specific health behaviors and follow their treatment plan to regain their function and reach their maximum self-care potential. According to ecological models, health behaviors are influenced by the interplay of individual, social, and physical environmental factors (Sallis et al., 2006). The social and physical environmental factors are often referred to as *social determinants of health*, which influence how people manage their health and recover from an illness, and are at the root of some health inequities (Braveman & Gottlieb, 2014). Patients from socioeconomically disadvantaged groups face particular challenges as they transition from hospital to home. This group often struggles with competing health priorities and financial barriers, and reports inadequate support from their social networks (Greysen et al., 2014; Kangovi et al., 2014). In a home health setting, *social environmental factors* defined as living arrangement, primary informal caregiver, frequency of care, and type of primary informal care, have

significant implications on how patients engage in health maintenance behaviors and play a central role in avoiding adverse health events following hospital discharge (Tao, Ellenbecker, Chen, Zhan, & Dalton, 2012). Moreover, family caregivers coordinate care with multiple providers while assuming diverse tasks to support the function of older adults transitioning home after a hospitalization (Chase et al., 2019).

Social, economic, and environmental factors all contribute to a patient's recovery following a hospital stay. Therefore, nurses' assessments of these nonclinical factors for older adults receiving home health services is crucial. However, how home health nurses use their assessment of nonclinical factors in their clinical practice remains largely unknown. Thus, the purpose of this study was twofold: (1) to explore the nonclinical factors (including social and physical environmental factors) that home health nurses evaluate, and (2) to describe how these factors influence nurses' care planning decisions. The study will inform how home health nurses can adopt a structured approach to assess the social and physical environmental post-discharge needs of patients to holistically facilitate their transitions from hospital to home, acknowledge their challenges, and provide them with adequate support and resources to enhance their recovery in the community.

## Methods

### Design

A qualitative descriptive design was used with data collected as part of a larger qualitative study that explored nurses' decision making regarding visit intensity planning for patients newly admitted to home health (Irani et al., 2018).

### Setting and Participants

Three large urban home health agencies from the mid-Atlantic region of the United States participated in the parent study. For the current analysis, we used a convenience subsample of full-time employed registered nurses who had at least 2 years of professional experience in home health and provided skilled nursing care during home visits to adult patients.

Nurses were recruited using an e-mail announcement that was sent by research coordinators and nurse managers at each of the participating agencies. The e-mail announcement included a brief description of the study and the contact information of the principal investigator (PI). Interested nurses reached out to the PI who presented the study, completed screening to verify eligibility, and set a convenient time to complete data collection. Participant recruitment continued until reaching data saturation in the larger study. Participants received a \$50 gift card at the end of the interview as a token of appreciation for their time and contributions to the study. The study protocol was approved by institutional review boards and research committees at each of the participating sites.

### Data Collection

Following informed consent, nurses were interviewed face-to-face in a private room at the participating agency, or via a secure web-based videoconferencing tool. The first author (E.I.) conducted all interviews and used a semi-structured interview guide that included

questions about various factors influencing visit intensity and work schedules. Exemplar questions and probes were published in a previous report (Irani et al., 2018). Interviews lasted 45 minutes on average and were digitally recorded, transcribed verbatim, and entered into Atlas.ti 7 for analysis. All transcripts were compared to the audio files for accuracy prior to data analysis.

## Data Analysis

Transcribed data were analyzed using conventional content analysis (Hsieh & Shannon, 2005). The first author reviewed all interviews and completed a first-level, line-by-line coding of the data, focusing on any factor not related to patients' clinical conditions and functional abilities. This open coding approach was relevant given the limited research on nonclinical factors influencing clinical decisions in a home health setting (Elo & Kyngäs, 2008). First-level codes were then organized and grouped into categories based on commonalities. Lastly, themes were derived from the final list of categories to describe participants' assessments of nonclinical factors.

Methodological trustworthiness of this study was maintained by having one author (K.B.H.) code a subset of the interviews to establish intercoder reliability (Morse, 2015). Moreover, an audit trail was created to keep track of coding and analysis decisions (Koch, 2006). The two PhD- prepared qualitative experts on the team (E.I., K.B.H.) discussed the codebook and initial findings, and all team members engaged in an open dialogue about alternative interpretation of the data and approved the final themes reported herein (Graneheim & Lundman, 2004).

## Results

Twenty nurses participated in this study and were predominantly female (90%), with a mean age of 46 years ( $SD = 8.6$  years, range = 30 to 59 years). Nurses had diverse racial identities, with 45% self-identifying as White, 35% as Black or African American, and 15% as Asian. Nurses reported having an average of 9 ( $SD = 5.5$ ) years of professional experience in home health care.

Although the larger study was focused on visit intensity planning, nonclinical factors emerged as a unique set of themes. All participants referred to socioeconomic and environmental factors that guided their decisions. Following content analysis of the qualitative data, three nonclinical factor themes emerged: *Social Support* (i.e., caregiver availability, capacity, and willingness to support the patient); *Home Environment and Neighborhood*; and *Finances and Insurance Barriers*. Each theme is presented with a focus on what nurses assessed and how their assessment influenced their decisions and actions.

### Social Support

Nurses described scheduling the first home visit at a time that was convenient to the patient and potential family caregivers involved in the plan of care to assess the patient and his/her support system. When caregivers were available on the first visit, they often served as a complementary source of information and helped the nurse in getting a comprehensive understanding of the patient's situation, especially in cases where patients had limited

English proficiency or cognitive ability. If the patient lacked adequate caregiver support, nurses planned for more frequent visits and consulted with social workers. Moreover, nurses paid specific attention to patients who lived alone when determining the timing and frequency of their earlier visits. One nurse commented:

Some people have very supportive families, or they live with their family, and they're very involved, so they don't need as many nursing visits. Other people live alone and they have nobody to do anything... [The managers] do encourage us to "frontload," which is to increase the visits if there are any things that would make us concerned, say, if a patient lives alone.

Nurses considered family caregivers to be engaged in providing care if they were available and willing, ready, and able to learn the required skills. One nurse differentiated between caregiver availability and willingness to participate in the patient's care:

Even if people are there, I say: "Well, do you live here alone?" And if they say yes, then, you know, my thought process goes another way. If they say no, then the question is, "Is your family supportive? Do they help you?" Because just because people are there, it doesn't mean that they're going to participate in the care.

For some patients requiring daily wound care or injections, available caregivers were not ready to immediately assume full responsibility. One nurse commented: "If a patient comes home and their wound is draining, you can't expect family members, especially lay people, to pick up right away. It takes about two to three visits at the very least." But once the caregiver demonstrated an ability to perform the wound care or give the injection, the nurse alternated with the caregiver and visited the patient two or three times per week, instead of every day.

Nurses shared the importance of assessing caregiver availability and readiness even if patients did not require frequent wound care and injections. In many cases, patients relied on their caregivers to get them to their follow-up appointments. Nurses also described how having a caregiver can safeguard patient safety as it related to two areas: medication management and fall prevention. Patients prescribed new medications and those with limited cognitive ability benefited from the presence of caregivers who reminded them to take their medications as prescribed or assisted them in filling the pill box. As for fall prevention, caregivers helped patients in their activities of daily living and continuously monitored the home environment for any fall hazards.

Nurses assessed the availability of family caregivers who were actively participating in the plan of care to schedule visits accordingly. One nurse shared how she had to reschedule some of her visits to meet the patient and caregiver during the weekend. Nurses valued the presence of engaged family caregivers to include them in the education process. One nurse described her approach to include family caregivers from the initial contact with the patient:

After reading the referral, I call the patient to set up a visit time and I ask if they do have family members available to please be there, too, because they're going to be involved in the plan of care. And once I get to the home, I sit down with the patient and the family members... I always teach the family or friend that's willing to

learn. If there's something like a new medication injection or some kind of new treatment, even—mostly for wounds, it may not be too comfortable the first day. So, I definitely do the demonstration the first day and come back the next day to watch them do it.

Some nurses increased the frequency of their initial visits if they had the opportunity to teach caregivers to provide them with additional reinforcement. Other nurses also preferred to have caregivers available during the visit to assist with the logistics of the visit, such as opening the door or locating specific equipment or supplies in the home. One nurse explained why she always confirmed that caregivers were available:

There's an elderly person up on the second floor. The person can't answer the door and can only get a family member on specific days to answer the door to let the nurse in. So that would limit us. If someone was not there to let us in.

Nurses' assessments of social support was a prevailing theme across interviews. Nurses paid special attention to patients who lived alone and lacked adequate support. On the other hand, nurses valued the presence of family caregivers during the home visits; they evaluated caregivers' readiness and willingness to assist the patient and scheduled visits to better prepare caregivers for their role.

### Home Environment and Neighborhood

Nurses assessed living conditions to evaluate patient safety. They considered patients to be at a higher risk for falls if they lived in poor housing conditions, such as if “they have uneven floors or their house is cluttered that [they] can't get through the hallway.” Some nurses observed rodents or bugs and were concerned about infection control issues. When nurses identified a safety risk, they assessed whether patients could remain safely in their homes or needed to be transferred to a skilled nursing facility. In addition, the assessment of the patient's neighborhood provided nurses with a perspective about access to healthy foods and medications, which nurses thought would influence how well patients recovered after their hospitalization. One nurse commented:

I don't always rule out non-adherent first because there may be a reason. I assess the whole situation, basically [...] Another thing is their environment. You know, where do they live? Do they have access to get the medicine or the right foods for their diet? Because sometimes they can't get to the right foods or they can't afford their medicine.

On the other hand, nurses evaluated their own ability and safety to provide care in patients' homes and neighborhoods. Housing conditions sometimes hindered the care that nurses delivered. One nurse gave the following example:

Some of the living conditions you go into, it's like, hoarding. There was one patient—there was just a little path to walk in, and, you have to do wound care and wrap legs, so you go in with all kinds of paper towels and drapes, and you just try and do your best.

Many participants experienced visits in unsafe neighborhoods. Therefore, nurses explained that they always evaluated their own safety as they provided home visits. One nurse said:

The agency provides security to go with you if you feel some places aren't safe. But once you get there, the people appreciate you being there. They'll stand at the door and make sure you get to your car safely. [...] Most of the time, if there's a sick patient on the block, even if it is a bad area, they know, oh, the nurses are coming. So, it's kind of like, they'll protect the patient. But at the same time, you have to be wise, and use your instinct.

In extreme cases, nurses considered whether they would provide home visits to a patient if they had concerns about their personal safety. A few nurses described referring to their managers, if they did not feel safe, to make a decision about initiating care for a patient or getting them support in other ways.

### Finances and Insurance Barriers

The patient's financial situation influenced the type of food or the number of medications they could afford, regardless of accessibility and availability. One nurse explained:

I'm not just assessing the person. I'm assessing everything. [...] They may have to choose between purchasing medications, buying food, and paying their electric bill. If they can't pay for meds, you know they're going to end back up in the hospital.

The assessment of financial factors did not directly influence nurses' visit patterns but provided them with a comprehensive understanding of the patient's situation to tailor the plan of care. Nurses collaborated with the patient to set realistic goals, especially if the patient had unmet social needs and was not improving as expected. One nurse described using different approaches with her patients in order to motivate them, instead of just increasing the frequency of her visits: "Sometimes, it's the way you treat them. Making it more casual tends to help a little bit, so they don't feel like they're being railroaded." In addition, nurses sometimes asked for the social worker's assistance and communicated with the physician about alternative treatment options. One nurse explained:

Sometimes they can't afford their medicine, then we have to do something—we just can't say they can't take it. They have to take it. We could either call the doctor, [or] try to find an alternative that costs less. We can get the social worker in; see if they can get them on some kind of reduced program or maybe a discounted medicine. Some counties give out free medicine for a little while.

Insurance status did not influence the frequency or quality of care that patients received, especially because some agencies were committed to providing "free care" until the patient had access to other resources or changed insurance plans. Nevertheless, nurses assessed whether patients had copays for each skilled nursing visit. Based on the patient's copay, nurses considered other ways to provide adequate care without overwhelming the patient financially. Nurses worked closely with the patient to complete as many goals as possible with the least number of visits to avoid the high cost of care. One nurse described how she encouraged her patient to be engaged in quickly learning the skills to perform her wound care:

Every time the nurse comes, it's \$150. And, it's evident she needed the nurse to come... But, what do you say to someone that says, "No, I don't want the nurse"? I



basically had to convince her: “Why don’t I teach you first, and then we come a couple times a week.”

In some cases, nurses invited caregivers to become more involved to lower the cost associated with increased home health utilization, especially if the patient needed frequent wound care. Other times, nurses referred patients to less expensive resources to receive basic care, such as daily injections.

## Discussion

Home health nurses assessed multiple socioeconomic and environmental circumstances, including patients’ caregiver support, housing conditions, and financial factors. These considerations influenced nurses’ decisions regarding visit intensity and scheduling, and guided them to refer patients to useful services and resources. These findings highlight the need to assess and promote caregiver engagement across the continuum of care. In addition, this study highlights the role of home health nurses in supporting older adults with limited resources.

Nurses in the current study assessed caregivers’ availability, capacity, and willingness to support the patient. This finding is consistent with the broader literature about engaging family caregivers in transitions of care. Family caregivers play a critical and largely invisible role in the period following discharge from the hospital (Coleman, Ground, & Maul, 2015). In addition, family caregivers contribute to decreasing rates of hospital readmission when they are provided with adequate support to participate in the transitional care of their loved ones (Rodakowski et al., 2017). Family caregivers integrate their knowledge of the patient with their knowledge about the patient’s illness and develop their skills over time as a result of practice and experience (Schumacher, Stewart, Archbold, Dodd, & Dibble, 2000). Unfortunately, caregivers are often expected to provide skilled services in the home with minimal training or advance preparation (Foust, Vuckovic, & Henriquez, 2012; Mitchell et al., 2018; Reinhard et al., 2019). Some participants described how caregivers were no longer available during the home health episode of care because they were overwhelmed and could not assume full responsibility for caring for their loved one. Family caregivers could benefit from multiple reinforcements to gain the skills and confidence needed to care for their loved ones. Home health nurses have limited time and resources to address the needs of caregivers. Therefore, it is important to mobilize interprofessional clinicians across the continuum of care to help better prepare family caregivers for their role. Forty states have enacted the CARE (Caregiver Advise, Record, Enable) Act that requires hospital clinicians to identify family caregivers, include them in the discharge planning process, and provide them with instructions to care for their loved ones after hospital discharge (Reinhard, Young, Ryan, & Choula, 2019). However, the implication of this legislation on post-hospital care is unclear for patients receiving skilled home health services. Future research is needed to explore how the information about family caregivers and their training is transferred across care settings to facilitate care delivery.

Nurses in the current study evaluated other social factors, such as the patient’s living conditions and safety in the home environment. For older adults, hospitalization is a sentinel

event (Gregorevic, Lim, Peel, Martin, & Hubbard, 2016). Between 30% and 50% of older adults leave the hospital with functional decline, which increases their risk for falls and other adverse events such as dependency upon family caregivers or more formal care (Chase, Lozano, Hanlon, & Bowles, 2018; Covinsky, Pierluissi, & Johnston, 2011; Gregorevic et al., 2016). It is important to address home environmental challenges that older people might face after a hospital discharge in order to promote their successful recovery and aging in the community. For instance, CAPABLE (Community Aging in Place—Advancing Better Living for Elders) is a promising model that includes personalized home modifications to support the functional abilities of older adults and avoid their institutionalization (Szanton, Leff, Wolff, Roberts, & Gitlin, 2016). Nevertheless, there is a need to explore transitional models of care that integrate diverse services (e.g., skilled nursing services, therapy, and home modifications) to support the independence and recovery of patients with limited resources and promote aging in place.

Lastly, nurses assessed their patients' neighborhoods and financial factors that might influence their ability to fully engage in self-care. The implications of the social determinants of health on health behaviors and well-being are well established (Braveman & Gottlieb, 2014). Specifically, neighborhood characteristics have an influence on patient outcomes through the availability of and accessibility to community resources supporting post-acute care needs (Chen, Homan, Carlson, Popoola, & Radhakrishnan, 2017). Moreover, financial strain has been recognized as a predictor of medication nonadherence following hospital discharge (Osborn, Kripalani, Goggins, & Wallston, 2017). These nonclinical factors were beyond nurses' control and often nonmodifiable, but important to consider due to their influence on health behaviors, subsequently influencing patient recovery after discharge from the hospital. Nurses evaluated these factors in order to work with the patient within their context and alter the plan of care, while exhausting all possible resources. Nurses in acute care settings voiced similar concerns of not being able to address the social needs of their patients prior to hospital discharge due to organizational factors and patients' competing medical needs (Brooks Carthon, Hedgeland, Brom, Hounshell, & Cacchione, 2019). Although the current study participants referred patients to social workers in multiple situations, there is still a need for a streamlined process to address social determinants of health across care settings. Integrating questions into electronic health records to screen patients for social risk factors may be a step to highlight those at greater risk for inequity (Cantor & Thorpe, 2018). But until social determinants of health become actionable factors, research is needed to identify ways to better prepare healthcare providers as they care for their patients' medical needs alongside complex social needs.

There is increased interest in integrating social care into the delivery of health care to address the conditions that influence people's health behaviors and outcomes (National Academies of Sciences, Engineering, and Medicine, 2019). The findings of the current study highlight several opportunities to improve how clinicians address the social needs for home health care recipients. First, there is a need to support the transfer of patient information across care settings and facilitate the assessment of social needs during the home health start of care visit in order to allocate adequate resources. The OASIS contains core items that assess patient characteristics and outcomes to determine reimbursement and evaluate patient progress. However, the OASIS items that target social needs are limited to caregiver support

and living arrangements. Although the documentation requirement in home health care is perceived as a burden (Samia, Ellenbecker, Friedman, & Dick, 2012), expanding the comprehensive assessment of the patient to include social determinants of health can support clinicians' decisions to refer patients to the needed resources. Second, the role of social workers in home health requires greater attention and support. Home health care constitutes a highly interprofessional and autonomous practice environment in which home health providers collaborate to address patient needs and facilitate recovery. Although RNs are often responsible for developing and overseeing the plan of care, social workers are essential team players who bridge the gap between patients and the services and resources needed to recover in the community. Lastly, home health leaders are encouraged to advocate for payment models that allow for patient characteristics, including social needs, to better determine payment. As of January 2020, the Centers for Medicare and Medicaid services is adopting a new classification model, the Patient-Driven Groupings Model, which better aligns payment with patient needs (Medicare Payment Advisory Commission, 2018). Nevertheless, the model focuses on clinical characteristics (i.e., clinical conditions, functional status, and comorbidities) and does not account for the social determinants of health that might influence a patient's ability to recover from a hospital admission, leaving the most vulnerable patients at greater risk for poor recovery.

### Limitations

The current study has some limitations. The sample was limited to home health nurses employed by large urban agencies; their perspectives might differ from those working with smaller agencies or visiting patients in rural areas. Moreover, the data were collected as part of a larger study that was focused on visit planning. The interviewer did not probe participants to elaborate on their experiences while assessing environmental and socioeconomic factors, unless their assessment guided visit planning decisions. Therefore, there may have been some missed opportunities to explore how nurses' assessment of nonclinical factors influenced other clinical decisions. Despite these limitations, participants spontaneously shared valuable information about holistically assessing patients in their communities to determine how to best meet their needs.

### Conclusion

Nurses provide holistic care to patients across care settings. However, little is known about the nonclinical patient factors that influence nurses' care decisions, specifically within home health care. When home health nurses uncover unmet socioeconomic needs, they can better understand patients' health behaviors and explore strategies to mitigate adverse health outcomes. The findings have implications for home health nurses' scope of practice and how much is required of them to assist older adults as these patients recover following hospitalization.

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