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Top Nurse-Management Staffing Collapse and Care Quality in Nursing Homes

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Abstract

Director of nursing turnover is linked to staff turnover and poor quality of care in nursing homes; however the mechanisms of these relationships are unknown. Using a complexity science framework, we examined how nurse management turnover impacts system capacity to produce high quality care. This study is a longitudinal case analysis of a nursing home ($n = 97$ staff) with 400% director of nursing turnover during the study time period. Data included 100 interviews, observations and documents collected over 9 months and were analyzed using immersion and content analysis. Turnover events at all staff levels were nonlinear, socially mediated and contributed to dramatic care deficits. Federal mandated, quality assurance mechanisms failed to ensure resident safety. High multilevel turnover should be elevated to a sentinel event for regulators. Suggestions to magnify positive emergence in extreme conditions and to improve quality are provided.

Keywords

nursing home; top management; director of nursing; quality; outcomes; turnover

Director of nursing (DON) turnover, occurring in more than one third of nursing homes (NH) annually (AHCA, 2010), relates to high turnover in all levels of nursing staff, and poorer clinical outcomes in NH residents (Castle, Engberg, & Men, 2007; Kash, Naufal, Cortés, & Johnson, 2010). However, our understanding of this phenomenon is limited (Castle, 2005; Castle & Anderson, 2011). Recent research indicates that the relationships between management and staff turnover, and care quality are nonlinear, and have far more deleterious influence on care quality than previously believed (Castle et al., 2007; Castle & Lin, 2010). Importantly, prior studies are largely quantitative, which provide insight regarding correlates of turnover from a probabilistic perspective, but do not offer explanations of how and why these factors relate to multiple resignations (Tsoukas, 2009) or adversely affect care. Therefore, the purpose of this longitudinal, qualitative study is to describe staff responses to clinical administrative turnover and the relationship of turnover to system capacity for high quality resident care.

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System capacity refers to the continuously developing, emergent, idiosyncratic capabilities, often in the form of knowledge, that determine differing success rates across organizations (Salvato, 2009). *These capabilities are stable patterns that emerge from social structures making “use of real-time information, simultaneously exploring multiple alternatives, [and] relying on [rapidly] created new knowledge”* (Schreyögg & Kliesch-Eberl, 2007, p. 919). Thus, in NHs, a stable group of workers is essential to the capability to produce high quality health care (Colón-Emeric et al., 2010; Salvato, 2009). Turnover, which disrupts these relationships, will degrade a NH’s capabilities to provide high quality care (Anderson, Issel, & McDaniel, 2003). For example, DON turnover may destabilize the workforce as new policies and expectations introduced by newly hired management teams create anxiety and tension among staff (Donoghue, 2010). Higher DON turnover has been related to poorer care quality (Anderson, Corazzini, & McDaniel, 2004; Forbes-Thompson, Gajewski, Scott-Cawiezell, & Dunton, 2006), whereas higher DON tenure has been related to higher staff retention and lower turnover (Donoghue, 2010), as well as reduced use of restraints and complications of immobility (Anderson et al., 2003). Thus to improve NH residents’ health outcomes, we must first understand how clinical management turnover contributes to multilevel nursing staff turnover and poor quality of care.

Because many experts describe NHs as complex adaptive systems (Anderson et al., 2004; Colón-Emeric et al., 2010; Forbes-Thompson et al., 2006), we used complex adaptive systems theory to frame our understanding of organizational behavior. Organization complexity describes the innumerable possible combinations of individuals, beliefs, values, circumstances, responses, and outcomes that interact and feed-back into the dynamic NH environment. Self-organization (Prigogine, 1997) occurs as individuals or subsystems mutually change their behaviors based on evolving conditions regardless of central controlling forces (Cilliers, 1998; Plowman et al., 2007). The process of self-organization, will influence a NH’s capability because self-organization arises from relationships and interactions among the people in the system—the same dynamics that establish an organization’s capabilities (Schreyögg & Kliesch-Eberl, 2007). From these social interactions among workers emerge new behaviors that may be key sources of innovation and creativity with the potential to influence system capacity for high quality care (Plowman et al., 2007; Weick, 2003). Leaders, as central figures in these social interactions, influence self-organization, novel behaviors, and care quality *by affecting* the frequency, type and tenor of employee interactions, information flow, and level of diversity among system agents (Anderson et al., 2003).

Therefore, linear models that identify variable covariation are limited in explaining complex phenomena, including understanding the whole system, emergent relationships between nursing management turnover, staff turnover, and care outcomes (Anderson et al., 2004; Institute of Medicine [IOM], 2004). These limitations are reflected in conflicting quantitative findings relating turnover to outcomes. For example, Castle et al. (2007) found that reducing RN and LPN turnover from high to medium improved outcomes, but did not observe similar results comparing medium to low turnover facilities. Furthermore, in a nationally representative survey of nursing home administrators (NHAs) and DONs (Castle & Lin, 2010), higher NHA turnover was related to higher prevalence of facility-level care

outcomes of pain, decubitus ulcers, and use of restraints, but, higher DON turnover was related to lower prevalence of pain, depression, and delirium.

By using a longitudinal, qualitative approach to account for the interrelated variables and feedback mechanisms of complex adaptive systems, we were able to track the unfolding events as contributors to a dynamic context that influenced future events. Therefore, this study expands our understanding of the relationships between DON turnover and care *outcomes* by directly addressing methodological and conceptual gaps in the literature. This study aims to describe (a) a multidimensional view of turnover over time; (b) how clinical administrative turnover relates to care system management; (c) how staff responses to turnover relate to resident care quality; and (d) novel emergent behaviors (Weick, 2003).

Method

This longitudinal case study ($n = 97$ staff in 1 NH) was drawn from a larger, comparative case study about nursing management practices, relationship patterns, and resident health outcomes in 8 NHs. Each of eight NHs was selected from among all Medicare and/or Medicaid certified nursing facilities in 6 counties in Central North Carolina using a random number generator. For each case study NH, data were collected through observation and interviews by two field researchers over a 6-month intensive phase and a 3-month follow-up period. The purpose of the follow-up period was to maintain contact with NH personnel while the case summary was compiled and to ask additional questions that arose during analysis. Before exiting the case facility, the research team met with the NHA-3, ADON-2, and the staff members they selected, to discuss findings, interpretations, and answer questions about results. In addition, we provided an individualized continuing education program for staff based on study results. NHAs and DONs granted enrollment of the facility, and staff members were consented prior to interviews. The university institutional review board approved all procedures.

Sample and Setting

The NH case in this study, labeled “Oakview”, was purposively selected from the eight case studies as an exemplar of high administrative turnover with 300% NHA and 400% DON turnover. Examining extreme cases has unique value because it allows for fuller illustration of phenomenon that occurs in less extreme forms elsewhere (Mumford, Friedrich, Caughron, & Antes, 2009). Moreover, the contribution of moderate turnover to system capacity for care can only be studied by creating arbitrary turnover cut-points because turnover-quality thresholds are unknown (Castle, 2006). Therefore, this case provides an opportunity to explore the turnover construct longitudinally and to anchor the turnover-quality continuum on one extreme.

Two field researchers prepared with graduate degrees in social work and organizational behavior, respectively, received 4 weeks of training in observation and interview. During data collection, they observed meetings, usual routines and shadowed staff in the facility at least twice per week across all shifts for 6 months, and then intermittently during a 3-month follow-up phase. To build trust, these researchers spent the first six weeks observing daily routines before requesting interviews. In addition, all members of the research team spent

time in the facility to conduct interviews with residents thus providing all team members with personal knowledge of the case facility. To provide a contrasting source of data about the phenomena and to ensure a diversity of perspectives, in-depth interviews ($n = 74$) were scheduled with staff across all departments (Table 1). Participants were asked about decision making and problem solving, communication patterns, teamwork, leadership, care quality, and barriers and facilitators to care provision. Researchers did not specifically ask participants about turnover but probed for more information when turnover was mentioned. When observations included discussions with family members or residents, field researchers identified themselves and explained the study purpose. In-depth interviews were audio recorded, transcribed verbatim and loaded into Atlas.ti software for team analysis. Observations and informal interviews (i.e., unscheduled interviews conducted during field observations) were written as field notes and later transcribed for analysis. Further, facility documents including employee handbooks, job descriptions, and brochures were uploaded into the database for contextual information ($n = 10$ documents). The for-profit, suburban, chain-affiliated NH had a licensed bed capacity of 114, with 70 beds certified for Medicare and 44 beds used for assisted living residents.

Analysis

All members of the research team were involved in data collection and data coding using immersion and content analysis techniques. Immersion describes the systematic, prolonged, and focused experience of reading, reflecting and rereading the data followed by progressive intuitive crystallization of insights (Crabtree & Miller, 1999). Content analysis searches for units of meaning within text data, which are then sorted into categories for further analysis (Crabtree & Miller, 1999). All transcripts from the larger study were initially coded for content related to management practices, relationship patterns, and care quality by two members of the research team. *The first author and at least one other member of the research team further coded the data from this particular case to capture management practices and emergent responses to high, multilevel turnover.* A priori codes were derived from the NH turnover literature and included domains of external factors, relational processes, turnover, business practices, staffing, and resident outcomes (Table 2). For example, the survey process was coded as an external factor and hiring policies were coded as part of business practices. Using this scheme, the first 30 interviews and observations were coded into data chunks. We then reviewed the coded quotations for emergent themes and revised the code list to reflect the unfolding story. We further generated and revised codes through iterative cycles of reading-coding-rereading. Afterwards, we queried Atlas.ti to access coded quotations from across the 100 transcribed documents, allowing for triangulation of perspectives on leadership, turnover, and care systems. For example, we compared the administrator's viewpoint concerning care quality with the viewpoint of a nurse aide and an RN. Frequent review of original transcripts validated contextual accuracy and representative quotations were entered into matrices. We analyzed underlying patterns in the data using concept maps and analytical writing (Marshall & Rossman, 2011). Turnover and hiring incidents were entered into spreadsheets to capture the longitudinal movement of staff in and out of the nursing home.

To ensure rigor, we addressed confirmability, dependability, credibility and transferability (Anderson, Ammarell, et al., 2005; Crabtree & Miller, 1999; Miles & Huberman, 1994). Code validity and thematic agreements were checked in weekly team meetings. We processed paradox, ambiguity, and contradictions in the data through reflexive journaling and team discussions. Thus, we enabled integrative analysis of both positive and negative emergent events and behaviors. Rich case descriptions were developed so that readers might determine the transferability of findings to their local circumstances. An audit trail of coding decisions made in weekly team meetings, journals, and thematic analyses were maintained.

Results

We organized the results according to the four study aims including a description of (a) turnover trajectories, (b) how administrative turnover related to care system management, (c) how staff responses to turnover related to care quality, and (d) novel emergent behaviors.

Description of Turnover Trajectory

Staff exits and new hires culled from interviews, field notes and nursing home documents are summarized in Table 2. The first turnover incident happened 27 days after research team entry when the first NHA (NHA-1) left Oakview. In the following 6 weeks, the DON-1 and assistant director of nursing (ADON-1), business manager, dietary director, maintenance director, and at least two nurses also voluntarily left. The NHA position was immediately filled by the corporate office. NHA-2 remained with Oakview from December to June and is the focus of the data unless otherwise noted. An interim corporate administrator, NHA-3, worked from June to August before a new, permanent NHA-4 was installed.

Nurse managers present at various times included four DONs, two ADONs, two minimum data set coordinators (MDS), and a nursing supervisor. The first DON resigned and joined NHA-1. The first DON and NHA-1 were a charismatic and cohesive team and enjoyed good rapport with the majority of staff members. One of the longer tenured employees from medical records spoke about the first NHA-1,

[NHA-1] was such a great person to work for. He always helped out. I mean, even if someone from housekeeping or laundry called out, he would be down there helping out. I have seen him slogging away with soiled laundry. He came the other day to pick up his last paycheck and we all just swarmed him and told him how bad it is here.

A corporate nursing consultant served as interim DON (DON-2) and as recruiter for a permanent nursing director. The first nurse hired for the permanent DON position (DON-3) was a student without management experience. Her tenure was approximately 14 days. An agency nurse was hired as the next DON (DON-4). The nurse was clinically seasoned, but again lacked management experience. Ultimately, with 4 months' tenure, the interim corporate DON-2 was the longest tenured nursing manager on site over the 9-month study period.

One month after complete administrative turnover, caregiver turnover peaked, prompting a phase of rapid hiring. The cycle of exits and new hires at Oakview characterized staffing

churn at all levels of staff and across all departments. The nonlinear pattern and spikes of workforce exits and entrants over time are shown in Figure 1.

Concurrent with this staff turnover, field researchers noted a significant influx of new residents. Specifically, Oakview's sister facility was closed to Medicare and Medicaid recipients for endangerment to resident well-being and residents were transferred to Oakview. Oakview's staff members reported an inadequate number of wheel chairs for incoming residents, family members' dissatisfaction, and problems transferring medications during this period.

Administrative Turnover and Care System Management

Administrative turnover related to care systems in three ways: one, the lack of shared vision among employees; two, weakened communication networks necessary for effective clinical oversight; and three, the impaired ability of nurse managers to assume management roles with weakened formal, quality assurance mechanisms.

Fragmented values and lack of vision—Care at Oakview occurred in a context of little technical management or leadership expertise. Novice managers focused narrowly on daily challenges without diffusing a broader organizational vision. New DONs struggled to master complex regulations, corporate policies, and facility staffing. Conflicting values about the importance of tasks, resident-centered care, and profit contributed to poor quality. The corporate owners emphasized the profitability of residents' insurance status, clinical documentation to upgrade acuity, and the cost of nursing staff. The corporate nurse liaison stated, "I hate how money drives everything. It is all about the money, not the care that people need ..." Without clear values to guide care prioritization, some staff members refused to feed residents or to change wet briefs in an effort to manage workload. Staff frequently ignored residents' call lights. One family member spoke of a nurse's behavior,

She was supposed to make sure that my mother in law was getting her shake three times a day and was not doing that. She actually refused and told me she was too busy and I got really upset and put my finger in her face and told her that it was the doctor's order and that my mother in law is losing weight and she has no excuses not to feed her.

The nurse's behavior reflected an attitude shared by many staff members. *Task-oriented versus resident-centered care* (Colón-Emeric et al., 2010) occurred in the leadership vacuum perpetuated by novice leadership and top manager turnover.

Weakened communication networks—DON turnover thwarted effective communication between clinical managers and nursing staff, thereby undermining care quality. Because the DONs were just developing relationships with staff and residents, the coordination of care through high quality interpersonal connections was impaired (Anderson et al., 2003, 2004; Gittel, 2009). Additionally, caregivers were wary of new DONs and fatigued by DON transience. Nursing staff became desensitized to administrative guidance because the rules changed with each successive director. A nursing assistant described how desensitization occurred,

Well every time a new administrator comes, new staffs come, they turn us upside down ... like every time that it happens, it turns me upside down. Cause I have to start all over again ... Everyone criticizes what the other is doing.

A staff nurse also described nurse managers as virtually irrelevant, “you say to yourself, well if you don’t like what they are doing, don’t worry about it. They will be gone too. I mean secretly you say that.” Thus the ability of DONs to lead and improve care through effectively communicating with staff members was hindered by turnover fatigue and staff indifference.

Impaired management role assumption—Turnover impaired the ability of nurse managers to assume management roles; simultaneously, we observed a weakening of quality assurance mechanisms including staff education, enactment of standard management practices, care planning, and clinical supervision.

Staff education—Staff education programming did not occur at Oakview because of nurse manager instability and nurse management short-staffing. The staff development coordinator position had been abolished, the nursing supervisor worked part-time, and the ADON position was vacant for more than 6 months. The nursing supervisor reported that nursing practices at Oakview did not meet state requirements. When asked how the management team was working to realign practice the nurse supervisor said, “We have been running around so much, trying to do paperwork and trying to get things together, we have not had time to do in-services.”

Standard management practices—High, multilevel turnover and short-staffing usurped the adaptive capacity and safety margins needed to respond to changing clinical and human resource conditions at Oakview. Therefore, the DONs filled gaps in clinical care staffing while attempting to manage a 114-bed facility. The following passage from DON-2 is representative of DON work patterns.

... back to the med cart [DON-2] starts to prepare the B-12 injection ... [The DON-2] gets paged for a telephone call. She continues to try to load the syringe. The red liquid is squirting all over, running down her arms and finally sprays on to her white shirt. She says she needs a shorter syringe. She goes to the nursing station to answer the call. It is someone asking to make a schedule switch. [The DON-2] tells her, “That won’t work.” [A nurse] comes up the hall and the DON-2 asks her if there are any 1-inch syringes in the supply room. No.

The conflicting demands and juxtaposition of management obligations, short-staffing, inadequate clinical supplies and resources illustrate the context of care and management at Oakview. Field notes from shadowed DONs vividly demonstrate the rapid-fire action. Therefore, manager actions were reactive impeding their ability to develop proactive strategies for care improvement.

Care planning—Oakview’s chaotic clinical systems did not support care plan utilization for individualized care as outlined in federal requirements for long term care facilities including codes related to resident rights, quality of life, resident assessment, and care

quality (Centers for Medicare and Medicaid Services [CMS], 2012). The interim DON-2 commented on the inadequacy, “We need two of those [MDS nurses] here. There is just too much to do and to do it right you need more people.” The DON-2 explained that the MDS was used as a financial instrument instead of a tool for care guidance in the absence of adequate MDS staffing. In addition to MDS short-staffing, the MDS coordinator covered for absent hall nurses, interfering with her ability to develop timely care plans. Thus, caregivers delivered routinized services rather than professionally planned care.

Clinical supervision—Despite being clinically strong, the DON-2 lacked experience in supervising staff and organizing care systems. For example, coordination was inconsistent between the orders for laboratory tests, collection of specimens, transport to lab facilities and reporting of results. A physician discussed the clinical problems,

It was several people that their pro-times weren’t done for three or four months where it was ordered for monthly. There were doses of Prednisone; here was an order for decreased dose every 5 days. And the dose was never changed. There were people that would be hypoglycemic every morning and I would hear about it when they were in a coma and ask what the glucose in the mornings had been, “oh, 50, 40, 40, 50”.

Moreover, providers complained about care quality to the DONs. Short-tenured, unsupported DONs were either unable to maintain quality control systems or unable to create protective system controls.

Nursing Staff Turnover and Resident Care

As turnover continued, we observed work overload, reckless hiring practices, care fragmentation, and deviant caregiver behaviors, reducing the system’s capacity to produce high quality care.

Work overload, safety and neglect—Caregiver turnover exacerbated short-staffing; for example we observed work overload, safety concerns and resident neglect. Nursing staff were asked to work double shifts and called to work on their days off. Staff members reported feelings of distress, physical and mental exhaustion. An alarmed agency nurse commented on the workload and staff exhaustion,

I mean the amount of responsibility ... it sets people up not to do a good job. That is why things don’t get done correctly and people end up not paying attention. They are stressed and overloaded. Look at the faces of some of these nurses.

A staff member discussed the workload of medication technicians, who also carried patient assignments for daily care,

... they’re doing assignments, plus doing meds. And that’s just too much; because that’s where you’re going get a lot of medication errors. Because they’re going to be too tired to notice that they forgot to give a pill, or they give one too soon, or they might have missed one.

In addition, we observed decreased system capacity to consistently provide for basic health needs during this time of high turnover and short staffing. A family member spoke about the shortage of caregivers, “Now where is anybody, do you see any nurses here? Where are they? There was only one CNA this weekend to be a feeder at lunch. How can those people eat with no one here to help?” Another family member discussed her mother-in-law’s rapid decline that she linked to care deficits at Oakview,

My mother-in-law was here for three weeks and in that time lost a lot of weight, was dehydrated and had a severe urinary tract infection that got into her blood stream. She was put in the hospital. She came back here and has lost three more pounds in one week. She is very old and I know will die someday, but I do not want her to die starving to death.

Reckless hiring practices—We observed urgency to fill staff vacancies which was accompanied by reckless employment practices. Standard preemployment screening designed to protect NH *residents* were breached in efforts to quickly introduce new nursing staff into the clinical area. A medication technician recounted his employment process, revealing unorthodox methods,

... on Thursday evening last week, [the med tech] received a phone call and was invited to come in to interview. He went in Friday for the interview, was hired and started that day. He told me he had worked Friday-Sat-Sun and now today. On Saturday, he worked 7 a.m. to 3 p.m. and then 3–11.

Another event further exemplified the loose criteria for working with Oakview’s residents. On a snowy winter’s day, an unfamiliar woman came to provide nursing assistant services. When the observer asked the DON-2, she stated that the garbage truck the woman normally drove was out of service due to the snow. Therefore, she would be working at Oakview for the day. Overall, staff orientation was nonstandard and inconsistently applied. In many cases staff did not have the information or training to successfully complete assigned tasks.

Fragmented care—As turnover continued, we observed reduced continuity of care provision and information exchange. Agency nurses and newly hired caregivers lacked knowledge of residents’ health histories and basic information about their medical conditions. Unfamiliarity compounded by inadequate or absent orientation and inconsistent intershift communication was observed along with care fragmentation and unsafe conditions. A frustrated nurse described how she viewed communication failures resulting in poor care.

... Someone has a big wound on her butt and no one told me about it. So and so’s family comes in and they need their diaper changed or whatever and they see this big wound on the [resident] and why was there not anything done about it. But I don’t know, no one told me. [The CNA] noticed it three days ago. Well why didn’t [she] tell me three days ago? Instead of it being in a stage one, it is in a stage two because we have done nothing about it for the last three days.

Nurses reported that the care environment was disorganized because new caregivers did not understand their roles and care coordination. The MDS coordinator explained the difficulties in integrating new employees into the clinical area,

The new people are in positions and nobody knows what somebody else is doing. The job responsibilities are not very clearly defined right now ... That's—that's the worst thing ... I think lack of systems, lack of organization. And there's not a whole lot of supervision right now.

NHAs and nurse managers had different views about the quality of care. Clinical staff members recognized the inconsistent quality and were able to articulate examples. The nursing supervisor stated that, "The quality of care has a lot to be desired. There is a lot to be done, and that is what we aim, what we are aiming to do right now." In contrast, NHA-3 who came to Oakview shortly before case study team exit spoke to a field observer, [NHA-3] said that she had been surprised that quality of care was as good as it was. Somehow, the nursing staff is managing to still provide pretty good care.

[NHA-3] said that she had been surprised that quality of care was as good as it was. Somehow, the nursing staff is managing to still provide pretty good care.

Deviant staff behaviors—Lack of supervision coupled with overwork co-occurred with deviant behaviors among staff members and substandard care. Incivility towards family members, staff and residents occurred frequently. Infractions included name calling, slapping, fighting, refusing to assist one another with resident care, and charging residents fees for special errands. Incivility escalated to violence when a nurse aide refused to help another aide with resident care. The disagreement ended with a physical fight between the aides in the dining room. Additionally, frontline staff withheld resident care as a retaliatory tool to settle grievances with nurse managers. When aides were annoyed with DON-4 for a heavy-handed reprimand, they staged an informal strike. A nurse stated, "The CNAs were really upset and staged a bit of a walk out for today. They just all called out or did not come in. Seriously no one showed this morning." A relationship between these behaviors and care was exemplified in this statement by a field researcher,

A resident calls out to me and I go into her room. She tells me that she wants to be changed. I tell her that I will tell a CNA. I look up and down the hall for a CNA but do not find any. Finally I see the hall nurse and tell her about the resident. The nurse says, "It is a bad day. There are no CNAs. She will have to wait."

Some residents verbalized fear of staff. The social worker was unable to persuade fearful residents to lodge formal complaints. She kept a secret folder in case the residents reconsidered. A resident spoke to DON-2 about her plans to leave the facility, A resident comes up to DON-2 and is upset. She says, "I don't want you to leave."

The DON-2 says, "I will come back and visit."

The resident says, "But the other nurses are mean to me."

DON-2, "Well we are going to work on that before I leave. It is going to be better for you." The resident shakes her head.

Ultimately, residents suffered through caregiver absenteeism, negative deviant behavior and neglect.

Positive Emergent Behaviors

Families—Family members emerged as important sources of advocacy and oversight. The family council was well attended and sought to improve resident life through volunteer activities. The council also identified frontline caregivers as poorly paid and overworked. In appreciation for frontline staff, families donated eighty gift certificates to CNAs at Christmas. The council president proposed creating a lending library for staff, “[The purpose is] to get [nursing staff] to read, train, and better themselves ... It is up to us to help them grow in positive ways and that is our goal.”

Family members enhanced caregiver accountability and innovation. Families successfully lobbied managers to implement consistent staff assignments and suggested strategies to improve communication between families and caregivers including door clipboards and dry erase boards. Another family member phoned authorities about the poor quality of care saying, “I am the one who called the state. They came in last week and I am sure after being here and seeing the chaos, they have their eye on this place.”

Families were often perceived as demanding and intrusive by staff members and administration. A field researcher recounts a social worker discussing family members and council meetings,

She tells me that she dreads the meeting because they [families] always get too involved. She tells me that at the last meeting [the families] wanted to do all the training of the volunteers.

Top management responded to active family involvement with preferential treatment for that family’s resident. For example, the order that residents received morning care was often determined by the outspokenness of families in making complaints. Although preferential treatment was unpopular with the nursing staff, the impact of family involvement was potent and potentially influenced the care received by other residents.

Caregiving—In contrast to the status quo, a positive subculture operated within the building. Two nurses described an esprit de corps among their care team. Large scale turnover was perceived by some nurses and CNAs as motivation to strengthen their commitments to one another and to the residents. A hall nurse explained,

The department heads can all leave you ... all of that should make you feel insecure but it doesn’t ... because we have learned we are still there; I feel like it is important for me to still be there because my CNAs do not have to relate to a different nurse. They need to know that I am there.

In addition to committed teams, some frontline caregivers expressed love for the residents. An aide commented, “You see that woman. She makes me smile. Every time I see her she seems happy to see me and makes me laugh.” One aide sang to her residents and noted that music was able to penetrate the shadow of dementia. On several occasions deep relational

bonds were observed between aides and residents. The interaction below occurred between a CNA and a resident recovering from broken bones,

[The CNA] gets the wheelchair over next to the bed. Before [the CNA] can help pull the woman up, the resident slides herself into the chair. [The CNA] looks at her in amazement. The resident laughs and says, "I have been waiting to do that for you... I wanted to see the look on your face when I did that for you." [The CNA] looks proud of the woman and keeps saying, "You are doing so well and working so hard."

Some nurses and aides encouraged ambulation, self-transfer, and resident participation in activities. Caregivers of this genre identified strategies such as actively ignoring the chaotic environment, remaining connected to residents, and using the golden rule to guide care. Others spoke of defending their licenses as a motivating factor to provide better care. A CNA spoke about administration, "Well all I got to say is that we are the people keeping this place together and I am not losing my license for any DON or NHA for that matter."

In a demonstration of positive deviance, an aide brought her dog to Oakview to visit a resident with Downs syndrome on her day off. Other employees also volunteered their time "off the clock." The activity director stated, "My mother who also works here, she'll volunteer her time." Another staff member used her work break to teach a new aide how to shampoo a resident with positional challenges. A family member talked about the relational work of caregiving, "It is just as hard on [the CNAs]. They become a part of our family whether they like it or not."

Clinical Solutions—Nursing staff crafted solutions and developed care processes outside of formal management structures. A CNA described a method to increase communication between nurses and aides, "We need to have daily report meetings... to let us know what is going on with the resident instead of us just going and guessing...most of the time we have to go and ask the nurse." Nurses reported breakdowns in communication as well. One nurse became frustrated about missing new medication orders. She devised a simple plan to improve communication between shifts, "I started my Acute Book last week ... you put what is going on with the patient, what you are charting on that patient." In the Acute Book, nurses could communicate important changes in resident health status facilitating seamless, 24-hr care.

Longer tenured nurses found it difficult to work with the parade of agency and newly hired nurses because they lacked knowledge of care processes and paperwork. In response, a hall nurse developed an orientation guide that became popular with new nurses as well as with agency personnel. A field observer described the tool,

It was a step-by-step guide of what you need to know and what paperwork you need to do. [The nurse] tells me that she used it to train the new LPN on the hall. She says, "You know, there was another night nurse standing there when I gave it to [the new LPN] and he wanted a copy of the paper and asked me to train him too. He never really got an orientation."

The care system was fractured by violence, indifference, and at times, neglect. However, an alternate caregiving organization operated beneath the rolling boil and churn of turnover-hiring cycles.

Discussion

Using case study method to longitudinally explore the implications of extreme turnover has revealed new insights that would not have been discovered using other methods (Anderson, Crabtree, Steele, & McDaniel, 2005). Numerous prior studies have established the link between turnover and poor outcomes in NHs (Anderson et al., 2003; Castle & Anderson, 2011; Castle et al., 2007). This case study, with its intensive observation and field researcher presence over time, extends what is known about caregivers' responses to high turnover among clinical and administrative managers, and the system dynamics and declines in care quality that occur.

At Oakview, turnover was a nonlinear, dynamic process. We documented coturnover in the upper management team (NHA-1, DON-1, ADON-1). This finding supports the results of Castle and colleagues (2005) who found a correlation of 0.79 between NHA and DON turnover in nursing homes. Clustered turnover may be explained by group cohesion, conformity, and homogeneity of behaviors and attitudes described by social identity theorists (Ashforth & Mael, 1989). Oakview's original top management team shared values, attitudes, and group identity such that the uncertainty of resignation may have been less aversive than the uncertainty of a new, incoming administrative group. Resident care at Oakview was seriously impaired by clustered turnover events and resultant churn.

Our analysis revealed how turnover fueled a downward spiral in the system's capacity to maintain a safe environment for residents similar to quantitative results found by Kash, Castle, Naufal, and Hawes (2006). The original, seasoned administrative team at Oakview was followed by new top management that was ineffectual in health care, organization leadership. Catalyzed by the contagious quality of turnover, the blunders and disorganization of new managers contributed to more voluntary separation by caregivers. Clinical staff turnover then ushered in a wave of new caregivers that were hired haphazardly, creating further system vulnerabilities. The coordination, supervision and teamwork necessary for quality care eroded over time. Managers and caregivers working short-of-staff described burnout and turnover. Residents, family members, managers and staff members were distressed. Ultimately, the management team was replaced by yet another new team that was also inadequately staffed at study closure. The confluence of inadequate expertise, and human and instrumental supports, structured the system for recurring emergence of turnover and poor quality care.

Implications for Practice and Research

Centers for Medicare and Medicaid Services (CMS)-mandated, quality assurance mechanisms for nursing homes were not effective in the context of high, multilevel turnover. Developers of resident assessment and care guidelines and survey systems assume that the technical management expertise and appropriate personnel are present to assess, plan and implement procedures (Wunderlich & Kohler, 2001). However, NHs with high turnover

rates and chronic short-staffing may not have the system capacity to utilize care improvement strategies. Furthermore, CMS quality indicators are too late in detecting clinical system collapse because this indicates that residents have already suffered. This study and the findings of others (Anderson et al., 2003; Castle et al., 2007) suggest that high levels of multilevel turnover may be an early warning sign of impending decline in care quality. Turnover rates could be added to the reportable quality indicators as another factor that consumers can assess when making decisions about NH placement. Further, state and federal surveyors could monitor turnover as a trigger for early intervention to prevent deleterious outcomes.

Locally, results suggest that staff turnover creates stressors contributing to staff violence and resident neglect, and that managers must monitor for the emergence of negative behaviors that endanger residents and staff. Monitoring for incivility and aggression is important for safety and to preserve functional interconnections necessary for effective care delivery.

Echoing previous studies (Kash, Naufal, Dagher, & Johnson, 2010), our findings suggest that owners have an important role in the stabilization of high turnover nursing facilities. In the case of Oakview, corporate owners missed multiple opportunities to intervene and support new administrations; rather, the corporation focused on interim, stopgap management hires and transferred additional residents from the closed, sister facility. Additional research regarding the role of corporate ownership in monitoring and responding to turnover to ensure resident and staff safety is warranted. Amid the dysfunction, we also noted positive deviance (Bradley et al., 2009; Lindberg & Clancy, 2010; Luft, 2010). Families, hall nurses, nursing assistants and some nonclinical staff self-organized and informally took on select management and leadership roles. Positive deviance was an important source of this system's capacity to adequately manage care for some residents. However, these positive behaviors were overshadowed by the adverse conditions created in part by staff turnover. The fact that these positive behaviors were possible, however, suggests that managers in high turnover situations should look for the areas in which staff are doing well and work to help spread those approaches to other areas of the facility. This might be a faster way of stabilizing the system than seeking out the negative care and trying to correct it using standard approaches—approaches that have already proven ineffective in the current situation.

Limitations

Although this study fills a gap in our understanding of turnover and care system capacity there are several limitations. The interviews included probes about turnover when the issue was raised by participants rather than preemptively. However, because the turnover was so high and disruptive to operations, most participants referenced or discussed the changes. Staffing exits and hires were reported to and observed by researchers who were in the facility approximately two times per week. These values were confirmed with administrators but not compared to payroll data. Also, researcher visits decreased in the last 3 months of the study. Therefore, turnover and hires may be understated for this period and we cannot be sure of NH properties that existed prior to research team entry. Our results are from one NH

case that provides an anchor for the continuum of turnover-quality science. The results may not translate to other systems.

We described the collapse of nursing management, emergent dynamics, high turnover, and decreased care quality in a nursing home in crisis. Our findings suggest that high, multilevel turnover should be considered a sentinel event by regulators and publically reported. At Oakview, frightened residents were living amidst a devolving care system. Turnover-plagued facilities and instances of administrative staffing collapse require timely identification and interventions that are as yet, undeveloped.

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Biographies

Selina R. Hunt joined the Duke University School of Nursing in October 2010 as an inaugural postdoctoral research fellow through the Trajectories in Chronic Illness and Care Systems Postdoctoral Program. She earned her PhD from the University of South Carolina's Arnold School of Public Health, Health Services, Policy and Management Department. She is also a psychiatric nurse practitioner. Her research program focuses on registered nurse and director of nursing turnover, top management leadership strategies, and linkages to quality of resident care through the prism of complexity science. The long-term outcomes of the studies are practice and policy-relevant and will provide a foundation for nursing leadership management interventions.

Kirsten Corazzini, PhD, is an associate professor in the Duke University School of Nursing, a core faculty member in Duke's Center of Excellence in Geriatric Nursing Education, and a senior research fellow at the Center for the Study of Aging and Human Development. She earned her PhD in gerontology from the McCormack Graduate School of Policy Studies at the University of Massachusetts. The focus of her research is nursing management in long-term care, especially RN delegation and effective RN-LPN collaboration in nursing homes. Her research has been funded by the National Institutes of Health, the John A. Hartford Foundation, and the National Council of State Boards of Nursing.

Ruth A. Anderson is Virginia Stone professor of nursing and a senior fellow in the Duke University Center for Aging and Human Development. She is also a research development coordinator in the Office of Research Affairs in the School of Nursing. She pioneered the application of complexity theory and management science in nursing in analysis of the institutional environment of the nursing home. Her studies that show the relationships between patient outcomes and organizational structure, interpersonal relationships of staff and families, patterns of staff communication, and employee turnover have given researchers new tools for implementing evidence-based changes in the care delivery practices in long-term care facilities. In her current research she is testing a system change intervention to reduce falls in nursing homes. Her research interests are as follows: Her research program is concerned with understanding and improving nursing management practices and their impact on outcomes, with a particular interest in resident outcomes in nursing homes. She uses complexity science, organizational and nursing theory to bring together the constructs of communication and decision processes, relationship and interaction, organizational structures, context, resource allocation and health care outcomes. In her previously NIH/NINR funded study, "Outcomes of Nursing Management Practice in Nursing Homes," she worked with a multidisciplinary team to explore relationship patterns and management practices that enable nursing homes to attain high quality resident outcomes in a series of eight comparative case studies, identifying management practices that are distributed through all levels of workers and appear to build capacity for high quality outcomes. From these findings, they developed a new intervention for improving staff interactions and information exchange in long-term care settings. In a competing continuation NINR funded R01, her team and she are now testing this intervention in 16

community nursing homes for its impact on reducing patient falls; their team is also funded by the VA (Colón-Emeric, PI) to test the intervention in four Community Living Centers. She has expertise in both quantitative and qualitative research methods.

Figure 1.

Temporal sequence of Oakview's administrative and staff member terminations and hires

Notes: Arrivals denote newly hired personnel. Departures may include some involuntary terminations. Events and time periods are based on reports from personnel. *Admin* are

administrative personnel including the nursing home administrator, director of nursing, assistant director of nursing, nursing supervisor and minimum data set coordinator.

Frontline includes licensed nurses and nursing aides; *Other* includes social work, activities, dietary, housekeeping, maintenance, payroll and business office personnel.

Table 1

Position Title and Number of Participants Interviewed ($N = 74$).

Position	Number of persons
Administrator	3
Director of nursing	4
Assistant director of nursing	2
Registered nursing supervisor	1
Minimum data set coordinator nurse	2
Staff registered nurses	3
Staff licensed practical nurses	13
Agency licensed practical nurses	5
Medication technicians & nursing assistants	26
Physicians	2
Dietary department	3
Activities department	2
Environmental services	6
Social services	2

Table 2

Initial, A priori Code List.

Code domain	Definition	Sample codes
External factors	Factors external to the NH that constrain, facilitate or create tension in the clinical system.	State surveyors Reimbursement decisions Events in other NH facilities Families of residents
Relational processes	The manner in which people interact with one another in the clinical system including managers, staff, residents and families.	Information exchange Diversity of thought Interaction quality
Turnover	Incidents related to voluntary or involuntary turnover.	Intention to stay or leave Injury-related absences Turnover
Business practices	Explicit or implicit NH policies related to the clinical system.	Human resource policies Hiring practices Orientation of new employees retention strategies Corporate oversight and intervention
Staffing	Indicators of staffing adequacy and staff outcomes.	role strain workload competing demands agency staff satisfaction absenteeism satisfaction
Resident outcomes	Indicators of outcomes of care	care quality resident satisfaction