



See page 59 for suggested questions to begin discussion in your journal club.

This material is protected by U.S. copyright law. Unauthorized reproduction is prohibited. To purchase quantity reprints, please e-mail reprints@ons.org or to request permission to reproduce multiple copies, please e-mail pubpermissions@ons.org.

Healthcare Team Members' Perception of Staffing Adequacy in a Comprehensive Cancer Center

Beverly A. Nelson, PhD, RN, NEA-BC

Ensuring an adequate supply of RNs at the bedside is becoming increasingly difficult for hospitals. Heightened awareness of patient safety and quality issues underscores the need to attract and retain RNs in hospital settings, as do the growing findings linking better patient outcomes and fewer adverse events to the presence of RNs at the bedside. The aging workforce, insufficient faculty to manage increasing nursing school enrollments, the changing work climate, high workloads, and the image of nursing as hard and financially unrewarding work continue to drive the shortage (Goodin, 2003; Heinz, 2004; Ulrich, Buerhaus, Donelan, Norman, & Dittus, 2005).

The same workforce issues affect the specialty of oncology nursing at a time when the demand for oncology care is growing. As the baby boomer generation ages, the number of individuals with cancer and the need for oncology nurses are expected to increase (Buerhaus, Donelan, DesRoches, Lamkin, & Mallory, 2001). In most hospital units, RNs are part of a team. Understanding how staffing adequacy affects healthcare staff personally and professionally and how it affects patient care is important in shaping interventions and building cultures that attract and retain bedside nurses. A phenomenologic, qualitative study was designed to explore and describe how healthcare staff working on inpatient units in a comprehensive cancer center perceived and experienced staffing adequacy.

Literature Review

Better RN-to-patient ratios have been linked to lower odds of patient mortality and other adverse events in hospital settings (Kane, Shamliyan, Mueller, Duval, & Wilt, 2007). Aiken, Clarke, Sloane, Sochalski, and Silber (2002) reported a 7% (odds ratio = 1.07; 95% confidence interval, 1.03–1.12) likelihood of patient mortality within 30 days of admission associated with each additional pa-

Purpose/Objectives: To describe the perceptions of staffing adequacy of healthcare team members working together on units in a comprehensive cancer center.

Research Approach: A descriptive, phenomenologic design was used. Semistructured interviews were conducted with participants.

Setting: An urban, Magnet®-designated comprehensive cancer center in the southwestern United States.

Participants: A purposive sample of 10 RNs, 5 nursing assistants, and 5 associate directors.

Methodologic Approach: Data analysis was guided by Streubert's procedural interpretation of the phenomenologic method.

Findings: Themes emerged, including alterations to care; challenges to an already challenging shift; the right mix; effects on patients, safety, and quality; mitigating factors; and the aftermath.

Conclusions: Perceived inadequate staffing affects healthcare staff both personally and professionally, triggering responses that influence approaches to patient care, unit operations, and relationships.

Interpretation: The unique and sometimes varied perspectives and experiences of frontline staff are critical to understanding factors that influence and affect willingness to work and remain in hospital settings, and may serve as a basis for shaping interventions and strategies to ensure adequate numbers of caregivers at the bedside.

tient added to a nurse's workload. Friese, Lake, Aiken, Silber, and Sochalski (2007) found that nurse staffing influenced outcomes for patients with cancer undergoing surgery. Other studies have associated greater numbers of RN hours of care per patient day to fewer patient falls (Blegen & Vaughan, 1998; Sovie & Jawad, 2001), medication errors (Blegen & Vaughan, 1998), and adverse events (Cho, Ketefian, Barkauskas, & Smith, 2003; Dang, Johantgen, Pronovost, Jenckes, & Bass, 2002; Kovner & Gergen, 1998; Needleman, Buerhaus, Mattke, Stewart, & Zelevinsky, 2002; Pronovost et al., 2001). A

solid amount of RNs on staff also has been positively associated with higher levels of nurse-assessed quality of care (Aiken, Clarke, & Sloane, 2002; Aiken, Clarke, Sloane, Lake, & Cheney, 2008).

In a survey of cancer facilities, only 36% of the nurses responding believed staffing to be adequate in their work setting. Nurses who perceived that they worked on inadequately staffed units were less satisfied with their working conditions and expressed concerns about the quality of patient care delivered (Buerhaus et al., 2001; Lamkin, Rosiak, Buerhaus, Mallory, & Williams, 2001, 2002). Oncology nurses in Magnet®-designated hospitals who perceived staffing and resources to be adequate were 84% less likely to have job dissatisfaction and 80% less likely to report emotional exhaustion than nurses who perceived that staffing was inadequate (Friese, 2005).

Job satisfaction studies in the nursing literature have suggested a relationship between job satisfaction and nurse staffing. Favorable perceptions of the work environment influence nurses' desire to stay at the bedside. Job-related stress caused by inadequate staffing and lack of support in the work setting may reduce job satisfaction and lead to an increase in turnover (Hayhurst, Saylor, & Stuenkel, 2005). Studies have found that nurse job satisfaction decreased as the frequency of short staffing increased (Burke, 2003; Shaver & Lacey, 2003). Cline, Reilly, and Moore (2003) identified inadequate staffing as a major theme in a study of nurses who voluntarily left employment in acute care facilities.

The literature reveals little about the perceptions of staffing adequacy from the combined perspective of nurses, nurse managers, and unlicensed assistive personnel in the same setting. Nursing assistants (NAs) in nursing homes have described eliminating aspects of patient care (i.e., grooming, ambulating, and bathing) when poorly staffed (Bowers, Esmond, & Jacobson, 2000). The burden of daily staffing and ensuring adequate resources has been found to be a stressor affecting nurse manager retention (Parsons & Stonestreet, 2003). Understanding the perceptions and experiences of healthcare staff in relation to staffing adequacy is necessary to develop strategies and interventions geared toward retaining staff at the bedside.

Methods

A descriptive, phenomenologic approach, based on the ideas of Husserl (1962) in which the focus is to examine individuals' experiences and their meaning, was used. This approach involves going back to the phenomena being studied or what often is referred to as the "lived experience." Through interviews, those experiencing the phenomenon being studied bring it back into conscious awareness and describe it, and the researcher identifies the essences or essential components

of the experience and the role the components play for a particular group or individual as a means of developing knowledge (Koch, 1995; Lopez & Willis, 2004).

Setting and Participants

The current study was conducted in a 518-bed, urban, Magnet-designated comprehensive cancer center in the southwestern United States. A purposive sample of 20 RNs, NAs, and associate directors (ADs) was recruited and continued until data saturation was achieved (Speziale & Carpenter, 2003).

Data Collection and Procedures

Study approval was obtained from the cancer center's institutional review board. Semistructured interview guides and probes guided 60-minute tape-recorded interviews with participants.

Data Analysis

Streubert's procedural interpretation of the phenomenologic method, a synthesis of several phenomenologic research methods (Speziale & Carpenter, 2003), was used to guide the process and data analysis. Initial procedural steps included developing a personal description of staffing adequacy and setting it aside or "bracketing" it. Interviews were conducted with participants and transcribed verbatim. The interviews were reviewed and analyzed to identify relationships and significant statements and to develop categories and themes. A formal description was developed and relevant literature was reviewed. During data analysis, the researcher consulted regularly with an experienced qualitative researcher. Trustworthiness, or rigor, of the research was addressed by attending to credibility, dependability, confirmability, and transferability throughout the design and execution of the study (Polit & Hungler, 1999; Speziale & Carpenter, 2003).

Findings and Discussion

Ten RNs employed in direct care roles on their current units for a minimum of six months participated (see Table 1). Additional participants were obtained by asking RNs for permission to contact and invite their ADs and an NA on their units to participate. Five ADs and five NAs participated. Participants came from a variety of adult hematology, medical oncology, and surgical oncology units.

Healthcare staff defined staffing adequacy from a personal, role-based perspective. Multiple factors influenced how the shift was approached, managed, and experienced. Processes and responses triggered by short staffing did not occur in a linear fashion but, rather, operated simultaneously.

Table 1. Participant Demographic Characteristics

Characteristic	RNs (N = 10)			Nursing Assistants (N = 5)			Associate Directors (N = 5)		
	\bar{X}	SD	Range	\bar{X}	SD	Range	\bar{X}	SD	Range
Age (years)	34.6	12.94	23–60	44.8	6.3	36–55	45.2	8.99	32–58
Years in role	8.7	11.57	1–41	16	4.77	7–20	5	4	1–20

Multiple Definitions

Four variations on what constituted inadequate staffing were found: an increased nurse-to-patient ratio, high acuity assignment, presence of supplemental staff, and assignment of patients to the charge nurse.

Shifts having higher nurse-to-patient ratios than standard amounts for the unit or more rooms assigned per NA were identified as inadequately staffed. The literature suggests higher nurse-to-patient ratios are regarded as stressors and may be associated with job dissatisfaction, emotional exhaustion, and intent to leave (Aiken, Clarke, Sloane, et al., 2002; Hall, 2004; Muncer, Taylor, Green, & McManus, 2001; Strachota, Normandin, O'Brien, Clary, & Krukow, 2003; Taylor, White, & Muncer, 1999). Some perceived a shift as inadequately staffed if one or more supplemental staff who “did not know the unit” were present, despite preservation of normal staffing ratios. Aiken, Hue, Clarke, and Sloane (2007) found similar perceptions regarding supplemental nurses. Charge nurses who took a patient assignment characterized their shift as inadequately staffed. For others, having an assignment that was considered high acuity, despite normal ratios, caused a shift to be considered inadequately staffed.

Alterations to Care

Selected aspects of care were altered, eliminated, or delayed on inadequately staffed shifts. Less time was spent interacting with patients and families, leaving less time to build relationships and provide emotional support. Care became task focused and patient teaching often was postponed. One nurse described how she altered care.

You end up pushing things aside that don't absolutely have to be done that day, such as the teaching. You just go in and say, “I ordered you some supplies, but I'm going to have to show you tomorrow how to hook up your leg bag or wait until the discharge nurse can come in and talk to you, because I don't have time right now.” . . . The relationship components definitely suffer because I don't have the time to talk to them.

NAs most often altered how patients were bathed, a finding consistent with those of Bowers et al. (2000).

ADs identified personal contact and patient teaching as aspects of care most likely to be affected by inadequate staffing.

Challenges to an Already Challenging Shift

Participants described a number of factors that made short-staffed shifts more challenging. Although most factors were not exclusive to inadequately staffed shifts, less tolerance, time, and ability existed to deal with them.

Caring for off-service patients increased the shift's complexity and intensity for nurses. Less familiarity with the specific care needs of specialty populations, including medications, treatments, and monitoring, resulted in expending more time and effort to ensure patients' needs were met. Locating and communicating with off-service providers was time consuming and problematic when providers' responses to nurses' questions showed frustration they felt in dealing with issues they would not normally deal with on their home units. One nurse described her frustration.

If we have a patient who's off service and we try to approach [that] team for a problem because we don't really know their patients well, we may ask stupid questions and they kind of jump down your throat. . . . You think you are trying to do something right and they don't agree.

Friese (2005) found that oncology nurses who reported collegial relationships among nurses and physicians were more likely to assess care delivered as being high quality. Teamwork and good communication with physicians also were linked to patient care quality in a study by Idvall and Rooke (1998). Off-service patients were not a stressor for NAs. They took the view that “a patient is a patient,” perhaps based on the more generic care provided in their role and less direct communication with providers regarding patient care.

Increases in complexity and workload were felt more intensely on poorly staffed shifts. Participants noted increasing acuity of patients on units, often associated with older adult patients with comorbid conditions receiving more aggressive treatment.

RNs and NAs noted that patients with cancer and their families had extremely high levels of anxiety and made many demands of staff. Although they understood why, finding time to optimally respond was particularly difficult on short-staffed shifts. An RN on a surgical unit summed up this perspective.

I have noticed that [patients with cancer] are very demanding, very anxious. Very anxious family members have a lot of questions about care that they are

going home with that are very complicated and need constant reiteration . . . [patients with cancer] are different than somebody who came into the hospital for a foot ulcer. I mean, the anxiety level and need is just 10 times different.

A significant challenge was a perceived gap in the performance of some support departments. Nurses spent valuable time and energy compensating for the lack of needed services. Delays in response time and services and lack of supplies, equipment, and medications affected nurses' ability to deliver care. Patient and family distress increased, leaving nurses to manage those concerns. One AD stated,

I think nurses tend to have to go out and do more to get their job done than other services do to help the nurses get their job done.

An example of the effect on patients was described by an RN.

If we tell the patient, "Your procedure is scheduled for noon," and transportation doesn't come before noon, they'll call at 12:15 and 12:30 and 12:45 to say, "Did they forget about me? Are they going to cancel my test? Should I go down without them? Can you just give me directions? My family member will take me." I spend a lot of time with them trying to give them excuses and reasons as to why transportation is not here and assure them their test is still going to take place.

Mark, Salyer, and Harless (2002) found the availability of support services was associated with how nurses perceived staffing adequacy. Physical resources, including supplies and equipment, were associated with perceived quality of care in studies by Hogston (1995) and Idvall and Rooke (1998). Factors perceived as interfering with patient care had the greatest influence on job dissatisfaction in McNeese-Smith (1999), whereas Larrabee et al. (2003) found support service responsiveness was a predictor of nurses' intent to leave and job satisfaction.

Alterations to Work Life

Inadequately staffed shifts affected unit work life, including the ability to take meal breaks, participate in professional and educational activities, and take paid time off. RNs described difficulty eating a meal or taking other breaks, but admitted this decision often was a conscious choice based on concern about leaving others to cover their patients. Many nurses continued to respond to their patients' needs while eating a meal on the unit. NAs infrequently missed meals or breaks. An RN on a surgical unit described her experience.

I bring my lunch practically every day. . . . I'm usually afraid that something is going to happen and

whoever is covering either won't notice, or they'll notice but they'll just patch it up and not really take care of the issue, and when I come back I'll have more work for myself.

Inadequate staffing, particularly during an extended period of time, was described as a deterrent to taking paid time off. One nurse talked about the effect she believed it had on retention on her unit.

There have been a few people who have left because it is so difficult on our unit to get time off. . . . The younger nurses that are coming in [are ages 22, 23] and all their friends are getting married; it is hard to get off for all of those things that are important to them. So I think that that's caused a few of them to leave.

Eberhardt, Pooyan, and Moser's (1995) finding that low satisfaction in younger nurses was more likely to contribute to thoughts of quitting than in older nurses supports her assessment that a sustained shortage of nursing staff may be less tolerable for younger nurses.

Mitigating Factors

Who helps? Having help from other unit staff mitigated the effects of a poorly staffed shift. Internal nursing resource pool staff—when available, well-oriented, and familiar with the unit—were considered helpful. Support from an AD, assistant nurse manager, and a unit-based clinical nurse specialist was generally viewed as helpful. NAs received help primarily from other NAs and, to a lesser extent, from nurses. NAs, when fully engaged, were perceived as helpful. Nurses repeatedly stated that NAs could "make or break" a difficult shift. One nurse described this perspective.

We depend a lot on our nursing assistants. . . . There are a select few that are very helpful and there are some of them that I could live without. I mean, you almost feel better off if they weren't even here. With some, you just know you're going to have a good day because you know they're helpful. . . . They're not people you're going to see sitting in the corner; they're the person who is going to answer every call light.

The right mix: Having the "right mix" of staff was perceived to be important on an inadequately staffed shift. The right mix was defined in two ways: a balance of experienced and less experienced staff and having adequate numbers of staff on the shift who exhibited strong team behaviors. Participants valued having a mix of experienced and less experienced nurses on a shift. Experienced nurses were described as less anxious and able to provide a calming effect. One AD described their value.

The more tenured nurses are more used to [inadequately staffed shifts]. They're more mature. . . .

It makes a difference as to who you have on that particular day when you are running short. . . . Mature nurses may have a patient go bad, [but] they know how to pull it together. They go in there and “get” what to do, whereas new nurses are still stumbling and nervous. . . . It definitely does make a difference.

A nurse on a surgical unit described the importance of the right mix to her.

I really feel comfortable as long as there is [an experienced nurse] on my side [of the unit]. . . . I know I can go get somebody who is really knowledgeable. . . . I always kind of fall back on them. I don't know what I would do without them. . . . You just pick up stuff from them every day, and they don't even know it. I don't know how to say it, but you have to have some people who have seen a lot of things 'cause you never know when a new situation will pop up.

The other way participants described the right mix was having an adequate proportion of team members who were perceived to be trustworthy, spontaneously helpful, self-motivated, and capable of working on the shift. Team members considered “less strong” were

Aspects of care were altered, eliminated, or delayed on inadequately staffed shifts. Less time was spent interacting with patients and families, leaving less time to build relationships and provide emotional support.

described as doing the bare minimum, not extending themselves, having to be “chased down” for help, and only able or willing to focus on their patients. A disproportionate share of such staff on a short-staffed shift was a predictor of how the shift would go and could influence whether a nurse took a meal break. Participants believed characteristics such as work experience, age, role, education level, or gender had no bearing on who fit this profile. The contrast among strong and weak team members was consistently attributed to a difference in personality and work ethic. One RN described her experience.

If I work with a certain group of people, we could probably have just anything happen and it would be a good night . . . but if I worked with these other people, it can be very difficult. . . . It is just different personalities, different work ethic. Some have a stronger work ethic and there is a lot more teamwork . . . everyone is willing to help; it is just to the degree that they extend themselves. [For others], I have to drag them a little bit more as opposed to the person who will just be in there automatically helping me.

The literature suggests skill mix is a key attribute of quality and that numbers of new or inexperienced staff contribute to perceived workload (Hegney, Plank, & Parker, 2003; Hogston, 1995; Idvall & Rooke, 1998). McNeese-Smith (1999) found coworker relationships and coworkers not providing good care were sources of job satisfaction and dissatisfaction, respectively, in nurses. The level of experience of unit coworkers, coworkers who did not meet the nurses' standards, and coworkers about whom there was a lack of knowledge of their abilities and, therefore, were perceived as unable to assist, were major sources of occupational stress in the hospital setting (Hall, 2004).

Adams and Bond (2000) found quality of working relationships, sufficient numbers of staff, and the right mix of skills to cope with the workload were elements most predictive of job satisfaction. Higher job stress was correlated with lower group cohesion, lower work satisfaction, and higher anticipated turnover (Shader, Broome, Broome, West, & Nash, 2001).

Effects on Quality and Safety

Participants believed inadequately staffed shifts had greater potential for near misses and errors. Spending less time with patients could mean that important symptoms or conditions might be missed. Nurses often felt they were short-changing patients on such shifts. One nurse explained her worries.

I really worry about [patient safety]. That's like my nightmare when it's something out there you don't even know. . . . When you have adequate staff, you're just able to check on your patients more than when you're running. When you're understaffed, you're not able to really check on your patients and you may not catch the same things that you might on a day where you have more time. . . . You know you just don't even have the time to take that extra kind of precaution, you know—answer the little bell that's ringing in the back of your mind.

The Aftermath

Inadequately staffed shifts affected staff personally, following them into their home lives. Participants described feeling mentally and physically exhausted, tired, or drained after such shifts. Reduced energy levels sometimes affected activities and relationships at home. Some reported drinking alcohol or eating more; others used exercise to cope, distanced themselves from family, or needed to vent to someone. When staff experienced frequent, consecutive short-staffed shifts, they began to dread coming to work and did not want to work extra shifts when asked, as one nurse described.

It kind of affects me a long time after I get home. Because you know you are emotionally more fragile

and you're much more tired when you get up in the morning to come to work. I've noticed that, if it continues for longer than a couple of weeks, I'm really burned out. I don't even want to come at all. So even if I have five days off in a row, if they call me, I'm not going to go. I probably won't even answer my phone.

In contrast, after adequately staffed shifts, staff felt considerably different. They described being less stressed, exhausted, and drained. Nurses felt a greater sense of connection to their patients and better about their practice and the care they delivered. Some believed more and better teamwork occurred on such shifts. A nurse described her feeling after an adequately staffed shift.

My whole persona that I portray to my patients, I really do think it's different. I'll just be much more relaxed with them, and I will take more time for my assessment. . . . I go back in and check on them even more frequently than necessary because I have the time. . . . I feel like much more stuff gets done. I feel a sense of accomplishment when I leave. I'm feeling really excited about the care that I gave to my patients and about bonding with them.

Limitations

Limitations of this study included participant selection from only one clinical specialty and specialty institution, sample size, and the potential for bias based on the researcher's affiliation with the institution. The exclusive use of volunteer participants who willingly shared their perspectives with the researcher may have excluded participants who were not comfortable with an interview process.

Conclusions and Implications

Limited literature is available regarding the perceived experience of staffing adequacy from the perspective of RNs, NAs, and ADs working together on inpatient units in oncology settings. This study provides information from the perspective of staff in three roles working in a comprehensive cancer center. Several key findings have relevance for oncology nurses practicing in many settings.

Supplemental resources may be of limited helpfulness unless consistently available and well-oriented, suggesting that supplemental staff used on oncology units need specialty-based education, orientation, and familiarity with the units they support. When nurses work harder to compensate for shortcomings of departments meant to provide support to them and patients, time and energy for patient care are reduced. These findings reinforce the need for organizations to understand and address system issues preventing departments from

performing in ways that consistently support nurses and patient care.

The right mix of staff (i.e., RNs, NAs, and ADs), including staff members with diverse experience levels and strong team behaviors, influences oncology nurses' ability to manage their shifts. Development and implementation of robust screening and hiring practices focused on selecting staff with strong team member behaviors, in addition to clinical skills, is a critical step in achieving the right mix of staff. Scheduling also is important so that each shift has a mix of experienced and inexperienced staff.

Staffing adequacy, regardless of how individuals perceive and define it, affects which aspects of patient care are delivered and how they are delivered. How oncology nurses learn decision making and how to alter aspects of care for patients when staffing resources are not optimal and what the effects of those decisions are on patient outcomes are unknown. This issue warrants additional exploration.

Inadequate staffing affects healthcare staff personally and professionally, particularly when it occurs on a sustained basis, and may affect a nurse's desire to remain on an inpatient oncology unit. Although not the only factor in a nurse's desire to stay, healthcare leaders and organizations must take it into account. Nurses, when stressed, hurried, and multitasking, believe they may be more error prone or apt to miss signs and symptoms of conditions that require timely intervention to prevent adverse patient outcomes, a potential patient quality and safety issue. For healthcare leaders, understanding how staff perceive and experience inadequate staffing in oncology settings is a precursor to responding with strategies and solutions.

The findings and limitations of this study support the need for additional research. Replication of this study in other cancer centers and urban, suburban, and community hospital settings in which oncology nurses practice may help identify similarities or differences in staff perspectives. Studying perceptions of oncology nurses practicing in Magnet and non-Magnet hospital settings to identify setting-related similarities and differences is another opportunity. As noted, additional research also may be useful in learning more about how oncology nurses make decisions regarding altering care when resources are scarce, what decisions they make, and the effects of those decisions on patient outcomes.

Beverly A. Nelson, PhD, RN, NEA-BC, is the director of nursing programs at the University of Texas M.D. Anderson Cancer Center in Houston. Funding for this study was provided by a grant from the Houston Organization of Nurse Executives. Nelson can be reached at banelson@mdanderson.org, with copy to editor at ONFEditor@ons.org. (Submitted June 2009. Accepted for publication November 12, 2009.)

Digital Object Identifier: 10.1188/11.ONF.52-59

References

- Adams, A., & Bond, S. (2000). Hospital nurses' job satisfaction, individual and organizational characteristics. *Journal of Advanced Nursing*, 32, 536–543. doi: 10.1046/j.1365-2648.2000.01513.x
- Aiken, L.H., Clarke, S.P., & Sloane, D.M. (2002). Hospital staffing, organization and quality of care: Cross national findings. *International Journal for Quality in Healthcare*, 14(1), 5–13. doi: 10.1093/intqhc/14.1.5
- Aiken, L.H., Clarke, S.P., Sloane, D.M., Lake, E.T., & Cheney, T. (2008). Effects of hospital care environment on patient mortality and nurse outcomes. *Journal of Nursing Administration*, 38(5), 223–229. doi: 10.1097/01.NNA.0000312773.42352.d7
- Aiken, L.H., Clarke, S.P., Sloane, D.M., Sochalski, J., & Silber, J.H. (2002). Hospital nurse staffing and patient mortality, nurse burnout, and job dissatisfaction. *JAMA*, 288, 1987–1993.
- Aiken, L.H., Hue, X., Clarke, S.P., & Sloane, D.M. (2007). Supplemental nurse staffing in hospitals and quality of care. *Journal of Nursing Administration*, 37(7–8), 335–342. doi: 10.1097/01.NNA.0000285119.53066.ae
- Blegen, M.A., & Vaughn, T.E. (1998). A multisite study of nurse staffing and patient occurrences. *Nursing Economics*, 16(4), 196–203.
- Bowers, B.J., Esmond, S., & Jacobson, N. (2000). The relationship between staffing and quality in long-term care facilities: Exploring the views of nurse aides. *Journal of Nursing Care Quality*, 14(4), 55–64.
- Buerhaus, P., Donelan, K., DesRoches, C., Lamkin, L., & Mallory, G. (2001). State of the oncology nursing workforce: Problems and implications for strengthening the future. *Nursing Economics*, 19(5), 198–208.
- Burke, R.J. (2003). Hospital restructuring, workload, and nursing staff satisfaction and work experiences. *Health Care Manager*, 22, 99–107.
- Cho, S., Ketefian, S., Barkauskas, V., & Smith, D.G. (2003). The effects of nurse staffing on adverse events, morbidity, mortality, and medical costs. *Nursing Research*, 52, 71–79. doi: 10.1097/00006199-200303000-00003
- Cline, D., Reilly, C., & Moore, J.F. (2003). What's behind RN turnover? *Nursing Management*, 34(10), 50–53. doi: 10.1097/00006247-20031000-00016
- Dang, D., Johantgen, M.E., Pronovost, P.J., Jenckes, M.W., & Bass, E.B. (2002). Postoperative complications: Does intensive care unit staff nursing make a difference? *Heart and Lung: The Journal of Acute and Critical Care*, 31, 219–228. doi: 10.1067/mhl.2002.122838
- Eberhardt, B.J., Pooyan, A., & Moser, S.B. (1995). Moderators of the relationship between job satisfaction and nurses' intention to quit. *International Journal of Organizational Analysis*, 3, 394–406. doi: 10.1108/eb028838
- Friese, C.R. (2005). Nurse practice environments and outcomes: Implications for oncology nursing. *Oncology Nursing Forum*, 32, 765–772. doi: 10.1188/05.ONF.765-772
- Friese, C.R., Lake, E.T., Aiken, L.H., Silber, J.H., & Sochalski, J. (2007). Hospital nurse practice environments and outcomes for surgical oncology patients. *BMC Health Services Research*, 43, 1145–1163.
- Goodin, H.J. (2003). The nursing shortage in the United States of America: An integrative review of the literature. *Journal of Advanced Nursing*, 43, 335–350. doi: 10.1046/j.1365-2648.2003.02722.1.x
- Hall, D.S. (2004). Work-related stress of registered nurses in a hospital setting. *Journal for Nurses in Staff Development*, 20, 6–14. doi: 10.1097/00124645-200401000-00002
- Hayhurst, A., Saylor, C., & Stuenkel, D. (2005). Work environmental factors and retention of nurses. *Journal of Nursing Care Quality*, 20, 283–288.
- Hegney, D., Plank, A., & Parker, V. (2003). Nursing workloads: The results of a study of Queensland nurses. *Journal of Nursing Management*, 11, 307–314. doi: 10.1046/j.1365-2834.2003.00376.x
- Heinz, D. (2004). Nurse staffing and patient outcomes: A review of the current literature. *Dimensions of Critical Care Nursing*, 23, 44–50. doi: 10.1097/00003465-200401000-00011
- Hogston, R. (1995). Quality nursing care: A qualitative inquiry. *Journal of Advanced Nursing*, 21, 116–124. doi: 10.1046/j.1365-2648.1995.21010116.x
- Husserl, E. (1962). *Ideas: General introduction to pure phenomenology*. New York, NY: MacMillan.
- Iddvall, E., & Rooke, L. (1998). Important aspects of nursing care in surgical wards as expressed by nurses. *Journal of Clinical Nursing*, 7, 512–524. doi: 10.1046/j.1365-2702.1998.00180.x
- Kane, R.L., Shamliyan, T.A., Mueller, C., Duval, S., & Wilt, T.J. (2007). The association of registered nurse staffing levels and patient outcomes. *Medical Care*, 45, 1195–1204. doi: 10.1097/MLR.0b013e3181468ca3
- Koch, T. (1995). Interpretive approaches in nursing research: The influence of Husserl and Heidegger. *Journal of Advanced Nursing*, 21, 827–836. doi: 10.1046/j.1365-2648.1995.21050827.x
- Kovner, C., & Gergen, P.J. (1998). Nurse staffing levels and adverse events following surgery in U.S. hospitals. *Journal of Nursing Scholarship*, 30, 315–321. doi: 10.1111/j.1547-5069.1998.tb01326.x
- Lamkin, L., Rosiak, J., Buerhaus, P., Mallory, G., & Williams, M. (2001). Oncology Nursing Society workforce survey part I: Perceptions of nurse staffing in outpatient and inpatient oncology settings. *Oncology Nursing Forum*, 28, 1545–1552.
- Lamkin, L., Rosiak, J., Buerhaus, P., Mallory, G., & Williams, M. (2002). Oncology Nursing Society workforce survey part II: Perceptions of the nursing workforce environment and adequacy of nurse staffing in outpatient and inpatient oncology settings. *Oncology Nursing Forum*, 29, 93–100. doi: 10.1188/ONF.93-100
- Larrabee, J.H., Janney, M.A., Ostrow, C.L., Withrow, M.L., Hobbs, G.R., & Burant, C. (2003). Predicting registered nurse job satisfaction and intent to leave. *Journal of Nursing Administration*, 33(5), 271–283. doi: 10.1097/00005110-200305000-00003
- Lopez, K.A., & Willis, D.G. (2004). Descriptive versus interpretive phenomenology: Their contributions to nursing knowledge. *Qualitative Health Research*, 14, 726–735. doi: 10.1177/1049732304263638
- Mark, B.A., Salyer, J., & Harless, D. (2002). What explains nurses' perceptions of staffing adequacy? *Journal of Nursing Administration*, 32(5), 234–242. doi: 10.1097/00005110-200205000-00003
- McNeese-Smith, D.K. (1999). A content analysis of staff nurse descriptions of job satisfaction and dissatisfaction. *Journal of Advanced Nursing*, 29, 1332–1341. doi: 10.1046/j.1365-2648.1999.01018.x
- Muncer, S., Taylor, S., Green, D.W., & McManus, I.C. (2001). Nurses' perceptions of the perceived causes of work-related stress: A network drawing approach. *Work and Stress*, 15, 40–52. doi: 10.1080/02678370110063402
- Needleman, J., Buerhaus, P., Mattke, S., Stewart, M., & Zelevinsky, K. (2002). Nurse-staffing levels and the quality of care in hospitals. *New England Journal of Medicine*, 346, 1715–1722. doi: 10.1056/NEJMs012247
- Parsons, M.L., & Stonestreet, J. (2003). Factors that contribute to nurse manager retention. *Nursing Economics*, 21(3), 120–126. Retrieved from http://findarticles.com/p/articles/mi_m0FSW/is_3_21/ai_n18615828/
- Polit, D.F., & Hungler, B.P. (1999). *Nursing research: Principles and methods* (6th ed.). Philadelphia, PA: Lippincott Williams and Wilkins.
- Pronovost, P., Dang, D., Dorman, T., Lipsett, P., Garrett, E., & Jenckes, M. (2001). Intensive care unit nurse staffing and the risk for complications after abdominal aortic surgery. *Effective Clinical Practice*, 4, 223–225.
- Shader, K., Broome, M.E., Broome, C.D., West, M.E., & Nash, M. (2001). Factors influencing satisfaction and anticipated turnover for nurses in an academic center. *Journal of Nursing Administration*, 31(4), 210–216. doi: 10.1097/00005110-200104000-00010
- Shaver, K.H., & Lacey, L.M. (2003). Job and career satisfaction among staff nurses: Effects of job setting and environment. *Journal of Nursing Administration*, 33(3), 166–172. doi: 10.1097/00005110-200303000-00008
- Sovie, M.D., & Jawad, A.F. (2001). Hospital restructuring and its impact on outcomes: Nursing staff regulations are premature. *Journal of Nursing Administration*, 31(12), 588–600. doi: 10.1097/00005110-200112000-00010
- Speziale, H.J., & Carpenter, D.R. (2003). *Qualitative research in nursing:*

Advancing the humanistic imperative (3rd ed.). Philadelphia, PA: Lippincott Williams and Wilkins.

Strachota, E., Normandin, P., O'Brien, N., Clary, M., & Krukow, B. (2003). Reasons registered nurses leave or change employment status. *Journal of Nursing Administration, 33*(2), 111–117.

Taylor, S., White, B., & Muncer, S. (1999). Nurses' cognitive struc-

tural models of work-based stress. *Journal of Advanced Nursing, 29*, 974–983. doi: 10.1046/j.1365-2648.1999.00980.x

Ulrich, B.T., Buerhaus, P.I., Donelan, K., Norman, L., & Dittus, R. (2005). How RNs view the work environment: Results of a national survey of registered nurses. *Journal of Nursing Administration, 35*(9), 389–396.