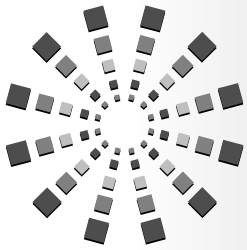

Akiko Kamimura, PhD, MSW
Karin Schneider, MA
Cheryl S. Lee, MS, RN, ACNP-BC
Scott D. Crawford, MS
Christopher R. Friese, PhD, RN, AOCN

Practice Environments of Nurses in Ambulatory Oncology Settings

A Thematic Analysis

KEY WORDS
Ambulatory care
Nursing practice environments
Patient safety
Satisfaction

Background: The practice environments of nurses have been studied extensively in inpatient settings, but rarely in the ambulatory context. As the majority of cancer care is delivered in ambulatory settings, a better understanding of the nursing practice environment may contribute to quality improvement efforts. **Objective:** We sought to examine the features of nursing practice environments that contribute to quality patient care and nursing job satisfaction. **Methods:** In 2009–2010, we conducted focus groups with nurses who cared for adults with cancer outside inpatient units. A semistructured moderator guide explored practice environment features that promoted safe, high-quality care and high job satisfaction. We also asked nurses to identify practice environment features that hindered quality care and reduced job satisfaction. We conducted thematic analysis to report themes and to construct a conceptual framework. **Results:** From 2 focus groups, composed of 13 participants, nurses reported that variability in workloads, support from managers and medical assistants, and the practice's physical resources could facilitate or hinder high-quality care and job satisfaction. High-quality communication across team members improved patient safety and satisfaction. **Conclusions:** Consistent with research findings from inpatient settings, nurses identified staffing and resource adequacy, management support, and collegiality as

Author Affiliations: Department of Health Management and Policy, University of Michigan School of Public Health, Ann Arbor (Dr Kamimura); Survey Sciences Group, LLC, Ann Arbor, Michigan (Ms Schneider and Mr Crawford); M. D. Anderson Cancer Center, Houston, Texas (Ms Lee); and Division of Nursing Business and Health Systems, University of Michigan School of Nursing, Ann Arbor (Dr Friese).

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Correspondence: Christopher R. Friese, PhD, RN, AOCN, University of Michigan School of Nursing, Division of Nursing Business and Health Systems, 400 N Ingalls #4162, Ann Arbor, MI 48109-5482 (cfriese@umich.edu).

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important inputs to high-quality care. **Implications for Practice:** These findings can inform quality improvement initiatives in ambulatory oncology practices. Strengthening nurse–medical assistant relationships, smoothing patient workload variability, and implementing strategies to strengthen communication may contribute to quality cancer care. Studies to test our proposed conceptual framework would bridge existing knowledge gaps in ambulatory settings.

The most recent data from the National Center for Health Statistics suggest that 19 million of the 23 million annual visits for chemotherapy occur in ambulatory settings.[1] Despite this staggering volume of care, the National Cancer Policy Board[2] and others[3] have expressed concerns over the quality of care for patients. In the inpatient hospital setting, our understanding of the staffing and environments of nurses in patient care has catalyzed a paradigm shift to examine the working conditions of nurses to improve patient safety and promote high-quality care.[4–6] A similar literature is lacking in ambulatory oncology, despite the astounding volume of patient care delivered and the high risk for adverse outcomes.

Literature from the sociology of the professions and organizations informs our understanding of the practice environments of ambulatory oncology nurses. Flood and Scott[7] described healthcare delivery organizations as professionally or bureaucratically focused; the former is oriented toward maximizing the autonomy of qualified healthcare providers to deliver patient-focused care. Conversely, bureaucratic healthcare organizations use a variety of management techniques that are focused primarily on cost containment and maximal efficiency. When applied to ambulatory oncology settings, those facilities with a strong profit motive may be less likely to support professional nursing practice, which may result in poor care and poor job satisfaction.

The purpose of this study was to explore the concept of the nursing practice environment in the understudied setting of ambulatory oncology. Findings from this study can lead to improved measures and methods to study ambulatory practice environments and inform efforts to improve the organization of cancer care and optimize patient outcomes.

■ Methods

We used focus group methodology to address our primary research question: What are the features of the practice environment of oncology nurses that assist in providing good or excellent care? Conversely, we sought to identify nursing practice environment features that inhibit the ability to provide effective patient care. A secondary aim was to identify positive and negative features that affected nurses' job satisfaction. Given the dearth of data on practice environments in ambulatory settings generally and particularly in oncology, we identified focus group methodology as a nonintrusive way to explore these issues, with an ultimate goal of improved measurement for future studies. We obtained institutional review board approval and had all focus group participants complete informed consent documents.

Setting and Participants

The study took place in a 9-county combined statistical area, as defined by the US Census Bureau. As of 2008, this combined statistical area had an estimated population of 5.4 million residents. A combination of large teaching and community hospitals serves area residents. Patients with cancer receive care in a variety of settings, from 2 National Cancer Institute–designated comprehensive cancer centers to solo-physician private practices. We sought to capitalize on this diversity in our participant recruitment.

We specified the following eligibility criteria for study participants: current registered nurse license and employment in an ambulatory oncology setting as a direct care provider for 16 or more hours per week. We recruited nurses through several channels. First, we distributed electronic and paper flyers through the local Oncology Nursing Society chapters. We next obtained a mailing list of Oncology Nursing Society members who resided in the 9-county area and mailed an informational flyer to their address on record. Finally, we faxed the informational flyer to oncology practices in the 9-county area. We directed interested parties to a secure Web site or instructed them to telephone a research staff member to complete eligibility screening. Once screened, we scheduled participants to attend a focus group. We conducted focus groups in private research offices without patient care areas. We provided free parking, light refreshments, and a $150 honorarium (with a sliding scale for extensive travel) as incentives.

We completed 2 focus groups with a total of 13 nurses. All participants but one was female, and 1 participant was of nonwhite race. Participants worked in a range of settings, from National Cancer Institute–designated comprehensive cancer centers, to cancer centers adjacent to teaching hospitals, to the sole nurse in private practices.

Study Procedures

We developed a semistructured moderator guide that we organized into 4 main sections. First, research assistants reviewed study procedures and data privacy plans with participants. Next, we provided each attendee with the opportunity to describe briefly their role and clinical setting. In turn, the moderator encouraged participants to discuss aspects of their workplace that helped them deliver effective care to patients and maintain

job satisfaction. Next, we explored workplace factors that inhibit effective care delivery and negatively affect job satisfaction. Focus groups lasted approximately 2 hours. We asked participants to not explicitly mention their place of work or the names of their colleagues to protect anonymity.

Data Analysis

We obtained digital audio and video recordings of the focus groups. Study data included verbatim transcripts augmented by field notes recorded by 3 separate members of the research team. Following the reading of transcripts, the research team developed the initial codes. After completion of initial coding, research team members (C.R.F., C.S.L., A.K., K.S.) reviewed the data and coding structure and agreed with the interpretations. These research team members also explored discrepancies in interpretation. We next organized the transcripts by the codes to conduct thematic content analysis. To improve trustworthiness of the data and our conclusions, we used the following procedures: selection of a diverse sample of focus group participants (to address credibility), reporting of representative quotations for themes, obtaining researcher agreement on themes, and the use of a semistructured moderator guide (to address dependability) and description of the study setting and context (to address transferability).[8] Following data analysis and based on the results, we developed a framework of practice environments of nurses in ambulatory oncology settings.

■ Findings

This study explored features of work settings and communication in nursing practice environments in ambulatory oncology settings and their positive or negative impact on patient care, safety, and job satisfaction. In the following sections, we describe the findings related to the determinants of favorable nursing practice environments, issues identified related to communication with colleagues, and the negative and positive consequences of practice environment differences to quality of patient care and nursing job satisfaction.

Practice Environments: Workloads, Support, and Resources

Nurses reported high volumes and high turnover of patients. Excessive, variable workloads were more challenging with temporary shocks to nurse staffing, such as vacations, resignations, and medical leave. Nurses agreed that patient workloads worsened with unevenly distributed patient assignments. High patient workloads and uneven patient assignments contributed to poor patient care and job dissatisfaction, as a participant described:

> We just do a tremendous volume of patients… it's just a tremendous turnover. You're very, very busy, and it seems that we're getting busier. We've been short-staffed because we have [several] people out on medical leave, we have people off on vacation—it's summertime—and that means the rest of the nurses who are left are picking up the extra. And the distribution of our workload is very inequitable.

Nurses also reported that supportive individuals, such as medical assistants (MA), volunteers, and supervisors, ameliorated these challenges. When nurses provided input on patient scheduling, nurses reported more manageable and equitable workloads:

> I really feel that our staffing is adequate and that we have resources that we can go to, such as the (charge nurse) or someone else, who can kind of help out. We also have volunteers in our department, so that can be a big help at times when we need running to the pharmacy to pick something up or you know, other things. They do a lot of the touchy-feely things with the patients, so that's very nice, too. So I think all in all we have good staffing.

Managers who understood the clinical context and challenges of patients who required more nursing care effectively minimized "surges" in patient flow and acuity. Participants uniformly lauded manager advocacy as critical to quality care and job satisfaction. As a participant described a manager's supportive actions:

> We all schedule our own patients, so [the manager] has 4 nurses, and there are 6 people scheduled at, say, 10:00 or 9:00; she knows that that's not going to work. So she will block off times, and if the doctors look and say, "Well, I need to add someone in," she will say, "No, you can't." …She's always into making sure that we are adequately staffed and that the patient care load is adequate.

Nurses clearly articulated the strengths and weaknesses of management support. The consistent presence of managers was highly valued, as well as supervisors who recognized challenging situations and "pitched in" to help. Managers were less appreciated when they were not readily visible and when there was a perception of favoring operational efficiency and cost savings over safe, patient-centered care.

> Nurses are viewed as an expense… I think it [happens in inpatient settings] also, but specifically when I get that feeling as an outpatient nurse; we don't generate revenue, we can't bill for our services, and so I think that's why we are working so short. They need to get another nurse, and you're adding their salary. If you have another MA, they are a lot less expensive than a nurse, but they can't function like we do.

Nurses described inconsistent relationships with MAs in their practices. Medical assistants performed a variety of functions, including initial intake, heights, weights, vital signs, phlebotomy, and transportation. Nurses in our study spent considerable time highlighting the positive and negative features of their roles. In some instances, empowered and supportive MAs contributed to efficient operations and alleviated some burdens from the nursing staff.

> The MAs control the flow… making sure that all the pieces are in order; we have labs if labs are needed before

> we can do the infusion. They're watching very carefully to see that as soon as those labs come up [results are back] and the patient can be made a go [for chemotherapy], that process flows quickly because that's how quickly the patient can come back. I think we have really good MA support, and they're very aware that every little delay in the system is a problem in the big picture, so they're very attentive.

However, when MAs did not process patients appropriately, obtain needed information, or address patient needs, quality and efficiency of care suffered:

> If the MA is supposed to bring the patient back and I have to calculate a chemo order, and they didn't get the height or the weight, which is part of their job, then that adds more stress to me, so that's another thing that I have to do, and then that's when morale goes down because then I can't do my job effectively, I can't do it correctly, I have a patient waiting; it's poor patient care.

Nurses reported lack of clarity in the responsibilities of MAs in their practices. In non-oncology ambulatory care, MAs routinely manage medication refill requests from patients and pharmacies. However, in the oncology setting, nurses stated that these issues were more complicated when considering oral chemotherapies and aromatase inhibitors. Nurses expressed unease with the inconsistency in which these matters are handled across practices.

Nurses also reported that lack of physical and supportive resources hampered effective care delivery. Nurses in smaller practices reported not having all necessary equipment available for patient care. As an example, smaller practices did not always have an adequate number of infusion pumps, so nurses had to allocate equipment to patients based on particular infusion requirements. Despite the potential for life-threatening infusion-related reactions, not all practices routinely stocked emergency equipment, such as emergency medications, defibrillators, and cardiac monitors.

Nurses from all practice settings reported strained pharmacy support. Nurses identified a trend that pharmacy departments were understaffed for the increasing patient volumes they witnessed. This resource shortage led to excessive patient delays and "backlog" effects on patients in queue for care. Nurses reported complicated relationships with pharmacy departments, as many infusion offices relied on outside or hospital-based pharmacies for their medications. For these nurses, lack of direct pharmacy presence in their physical space translated to decreased accountability for system problems with drug preparation and delivery.

Communication With Colleagues: Integral to Patient Care

The importance of communication emerged as the second major theme expressed by study participants. Aspects of communication discussed included communication with other nurses, MAs, clerical staff, managers, physicians, physician assistants, nurse practitioners, and pharmacists. Whereas most nurses established good rapport with other nurses and communicated with them easily, they had mixed experiences in communicating with physicians and other clinical and administrative staff. Nurses reported that they did not have strong nurse-physician contact. For example, one of the focus group participants described the challenges of communicating with physicians in a large cancer center, compared with her prior experiences:

> [W]e don't see physicians in our work for the most part. I wouldn't know the physician, most of them, if I passed them in the hallway. So that was a huge adjustment coming from a small cancer center where I had daily contact with physicians, and so the challenge in a large setting is that communication is much more challenging, much more challenging.

Nurses reported both positive and negative communication experiences with MAs and secretaries. They raised a common concern that clerical personnel scheduled patients without nursing input. This led to patients scheduled for complicated infusions late in the day. Clerical staff did not always flag urgent telephone messages for clinical intervention. When close communication between nursing and clerical staff occurred, appropriate patient scheduling occurred, nurses responded to patient queries more efficiently, and the likelihood for a "smooth day" increased. Similarly, timely communication with MAs regarding necessary laboratory testing, vital signs, height, and weights contributed to favorable patient experiences and fewer delays.

When managers were clinically savvy and participated in patient care to some degree, communication between nurses and administrators improved. Nurses reported feeling trapped between the profit motive of ambulatory infusion centers and their desire to provide supportive, patient-centered nursing care. This discrepancy led to strained communications between nurses and managers. As a participant described:

> They (administrators) want patient satisfaction, but they also want that fiscal bottom line. And as a nurse, that's frustrating, because it makes you feel as if it's all about your numbers, and it's not about [that]. Even though "patients and family first" is the slogan that we hear a lot, when we see [financial metrics presented], it's questionable. So you know, there's a pretty tense environment, and I don't feel that our administrators are realistic with what it is that we do daily.

Negative Consequences of Unfavorable Nursing Practice Environment Features

When we asked nurses to describe the negative consequences of suboptimal practice environments, patient delays emerged as a top nursing concern. Additional consequences included a perceived inattention to the psychosocial needs of patients and families and perceptions of guilt when time and workload demands did not allow for this necessary care.

> There's a lot of times we can wait over 2 hours for a drug while a patient's sitting in a chair. You know, we have

their IV in, we're ready to go, we've given them their premeds, and the patient has [been sitting] there for 2 hours. And it's not the pharmacy's fault; they just have too much workload.

Nurses reported the physical space of their practices was not conducive to delivering safe patient care or attending to patient and family psychosocial needs. Poor physical space affected the nurses' physical health in terms of ergonomic injuries. In many instances, the space was not designed for the current technologies in place:

> Our physical space is really problematic, especially since we've gone to computerized charting. We simply—our infrastructure is just not adequate in terms of space.

Nurses reported significant risks to patient safety when suboptimal communication was present. These risks include the potential for chemotherapy plans to alter without team member awareness. Nurses were "horrified" when their understanding of the treatment plan did not conform to the plan patients understood:

> Communication is a big, big one, and it actually starts with the physician, because in our particular situation the physician works out of [several] hospitals, has [multiple] offices, so he's beyond busy, and I think he communicates information and thinks he communicated it to everyone but didn't. So some of us [are] sitting there with a question mark and he thought he had communicated like a change in direction for a patient; we're going to stop one chemo and start on something else or something like that.

Positive Impacts of Practice Environments and Communication

Patient continuity, smooth patient flow, on-time orders, availability of requisite supplies, and support from pharmacists exemplified the optimal care experience for patients. One nurse described her "perfect day" at work as follows:

> When everything goes smooth, I have patients who arrive on time; everything is good as far as getting ready to administer the chemotherapy; our orders are accurate, which is sometimes a problem, and they're easy to follow, meaning you start with the top and you move on down the page. You know, as far as the parameters, the premeds, the orders, how they're written, if they're correct, if the date's correct, all that stuff. Then if the patient's relatively healthy; there are not some surprises when the patient arrives, that they've been very sick or something before then. So if the patient's in good shape to get their chemotherapy, and you get IVs in right away, and pharmacy has the drugs there when you need them, which is also sometimes a problem, and then everything goes well during the infusion. That would be an ideal patient.

Features of the workplace that enhance patient safety include standardization and confluence of information gap and staffing. In the following quote, a nurse new to a practice identified the challenges inherent in standardization of care processes yet appreciated the impact on patient safety:

> I noticed when starting where I work at now is that it was very hard for—it was very easy for me to blend in because everybody's doing everything exactly the same way; is that when the order comes, it says exactly how long, how much cc's, what to mix it with, what—everything…. There are very few instances where I have to stop what I'm doing and page the doctor or ask a question because every nurse is doing the same exact thing. So even everything is labeled, everything has already been checked, taught, everything like that, so when it comes to us, it's mainly very easy to follow through.

In many cases, collegiality and mutual respect overcame challenges to the practice environment for oncology nurses. As a participant described:

> Well, for me it's my coworkers. I came from a small infusion center that had a very negative work culture, and when I came to [my current facility], it was a tremendous relief to be among so many wonderful nurses. I have met just terrific people, for the most part, and it's a privilege to work with people of that caliber. And that continues to be the greatest source of work support. I mean, I love the patients dearly, and we're really blessed with the patients whom we get to take care of. They're very special people. But there's a real collegiality, I think, for the most part.

Conceptual Framework Development

The findings of our study informed the development of a conceptual framework to guide future research. We developed the framework following the thematic development and additional transcript analysis, with specific attention to how nurses identified an aspect of their practice environment and related consequences. As shown in our conceptual framework (Figure), our data suggest 2 primary contributors to quality of patient care. Favorable practice environments, epitomized by manageable, equitable workloads, present and supportive managers, and optimal physical environments, coupled with adequate communication patterns and improved patient safety and satisfaction. Favorable practice environments, excellent communication, and high quality of patient care, in turn, supported nurses' job satisfaction. The opposite was also true; when practice environments were unfavorable and communication was poor, care suffered, and nurses were less satisfied. Poor communication was generally characterized as nurses not having adequate information regarding scheduling workload or input into that process.

■ Discussion

The findings of this study suggest that there is consistency in practice environment features identified by nurses in both inpatient and ambulatory settings. Workload, support from managers and other personnel, physical resources, and communication are shared

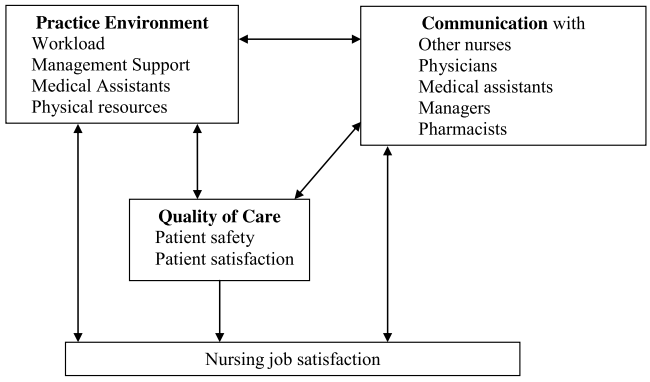

Figure ■ Proposed conceptual framework for studying practice environments in ambulatory oncology settings.

concerns across settings. These features can be either positive or negative. Thus, from a research and practice perspective, it is important to consider both the presence and absence of these features when studying the nursing practice environment.

The description of excessive, variable, and inequitable workloads is consistent with findings from previous studies conducted in hospital settings that found the nurses practice environments were strongly related to job dissatisfaction and poor patient care.[9] In particular, excessive workloads increased the likelihood of adverse patient events.[10] Nursing practice environment characteristics, such as staffing, were associated with the patient mortality[11] and nursing job satisfaction.[12]

The role of nonphysician providers is expanding in oncology care.[13–15] Oncology nurses frequently collaborate with nonphysician providers to provide care. Specifically, participants identified MAs as essential partners for effective care delivery in this setting. Previous studies have reported negative working relationships between nurses and unlicensed assistive personnel.[16–19] These studies suggest that nurses struggle with communicating effectively to MAs and have uneasiness with their education and training. The results of this study, however, suggest that collaboration with MAs can help nurses' work and be associated with better quality of care.

The results from our study inform an initial discussion regarding the concepts and proposed relationships for a framework to study practice environments in ambulatory oncology nursing. Because there are few existing studies on practice environment of nurses in ambulatory oncology settings, the study findings will inform future inquiries in this area. Next steps include empirical studies using methods such as structural equation modeling or path analysis to examine the strength and direction of these relationships depicted in our framework. Although our participants uniformly described the concepts of supportive practice environments and excellent communication as leading to better patient outcomes and high job satisfaction, it is possible that satisfaction may affect practice environments and communication. Thus, future studies should be designed to examine the presence or absence of causal pathways. Our study also informs future measurement approaches. For example, few studies of the practice environment focus on relationships between nursing and MAs, despite its resonance with our participants. Future measures of the nursing practice environment in ambulatory settings should consider how best to measure these relationships.

Limitations

The data from this study derive from 2 focus groups with small sample sizes. The samples may not represent ambulatory oncology nurses in general. We observed, however, that themes were remarkably similar across focus groups, providing additional evidence for data saturation. Moreover, we note that, in contrast to the population of nurses employed in hospitals, the number employed in ambulatory settings is relatively small. These limitations are presented alongside a rigorous effort to recruit nurses from diverse settings and include their data in these analyses.

Practice Implications

There is room for improvement in the practice environment of nurses who work in ambulatory oncology settings. Increased attention to patient workloads for ambulatory oncology nurses, coupled with strengthening the relationship among nurses, physicians, MAs, and managers, is likely to support professional nursing practice, improve patient outcomes, and enhance nursing job satisfaction. These improvements may lead possibly to improved safety cultures and fewer adverse events. To achieve these objectives, leaders in ambulatory oncology settings can target provider communication as a critical process for quality improvement.

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