Health care work environments, employee satisfaction, and patient safety: Care provider perspectives

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Background: Experts continue to decry the lack of progress made in decreasing the alarming frequency of medical errors in health care organizations (Leape, L. L., & Berwick, D. M. (2005). Five years after to err is human: What have we learned?. *Journal of the American Medical Association, 293*(19), 2384–2390). At the same time, other experts are concerned about the lack of job satisfaction and turnover among nurses (Page, A. (Ed) (2004). *Keeping patients safe: Transforming the work environment of nurses.* Washington, DC: National Academy Press). Research and theory suggest that a work environment that facilitates patient-centered care should increase patient safety and nurse satisfaction.

Purposes: The present study began with a conceptual model that specifies how work environment variables should be related to both nurse and patient outcomes. Specifically, we proposed that health care work units with climates for patient-centered care should have nurses who are more satisfied with their jobs. Such units should also have higher levels of patient safety, with fewer medication errors.

Methodology/Approach: We examined perceptions of nurses from three acute care hospitals in the eastern United States.

Findings: Nurses who perceived their work units as more patient centered were significantly more satisfied with their jobs than were those whose units were perceived as less patient centered. Those whose work units were more patient centered reported that medication errors occurred less frequently in their units and said that they felt more comfortable reporting errors and near-misses than those in less patient-centered units.

Practice Implications: Patients and quality leaders continue to call for delivery of patient-centered care. If climates that facilitate such care are also related to improved patient safety and nurse satisfaction, proactive, patient-centered management of the work environment could result in improved patient, employee, and organizational outcomes.

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In its 2004 publication exploring patient safety, the Institute of Medicine (IOM) argued that the hospital work environment has powerful effects on the quality and safety of health care delivery and on traditional employee satisfaction variables and turnover (Page, 2004). However, little research has identified the specific features of the health care work environment that are related to the essential care provider–patient relationship and its outcomes. The present study attempts to address this deficit in a first step toward testing a comprehensive theoretical framework (Rathert & May, 2005) Based on extant research focusing on patient-centered care, we developed a measure of the professional heath care provider perception of a patient-centered work climate. We then tested hypotheses about how patient-centered work environments relate to employee outcomes and patient safety.

Organizational Work Climate Research

The IOM asserted that patient safety has not improved partly because research on organizational dimensions of health care environments has been lacking (Page, 2004). A recent analysis of research on organizational variables and patient safety published in peer-reviewed clinical and health services journals since 1990 found that of 2,445 articles, fewer than 2% were empirical studies. Only five of these based their research on any kind of theory, other than two commonly used health care quality improvement approaches (Hoff, Jameson, Hannan, & Fink, 2004). Organizational sociobehavioral research could offer some much needed theoretical development for health care in general, as well as help develop testable hypotheses for improving care provider and patient outcomes. Theory testing is particularly important for patient safety because theory can help transfer knowledge gained in one setting to others (West, 2000).

A focus on organizational work climates should be a fruitful direction for health care (Rathert & May 2005; Stone et al., 2004) Organizational climates arise from the perceptions shared by employees about what is important in their organizations. Employees gain shared perceptions through their experiences on the job about behaviors that the management expects and supports. Climates develop in part from structural aspects of the work context, such as the organization's size, authority hierarchies, rules and policies that define appropriate behavior, and features of the physical environment. These structures arise from the original founders and members of the organization (Schneider & Reichers, 1983) There are often many different types of climates within one organization (Carr, Schmidt, Ford, & DeShon, 2003; Dennison, 1996), and specific climate types have been empirically linked to specific outcomes

(Carr et al, 2003). Schneider, Ashworth, Higgs, and Carr (1996) demonstrated that employee perceptions can reflect policies and practices implemented in the organization and can be valid assessments if policies and practices are linked with strategic objectives. Employee perceptions of specific hospital work climates are of interest in this study.

Employee-customer "linkage research" has consistently demonstrated the benefits of studying work climates in service industries (Wiley & Brooks, 2000). Linkage research identifies specific work environment features, from the *employee* perspective, and correlates them with critical organizational outcomes. Employee climate perceptions have predicted such outcomes as customer satisfaction, employee satisfaction, and other organizational performance outcomes. Linkage research has found support in banking, utility, retail, and other service industries. Longitudinal linkage research has demonstrated that "leadership practices precede employee results, which precede customer results, which precede business performance" (Wiley & Brooks, 2000, p. 180). Furthermore, the longitudinal research has also found that when organizations adopt specific work climate linkage value systems as their foundation for achieving better performance, the model becomes "self-reinforcing." Importantly, these self-reinforcing value systems are readily observable and can be evaluated by employees.

Linkage research should apply in health care organizations as well. Health care is a service industry and, in this way, is similar to the industries in which the model has found support. Service industries are characterized by certain attributes that set them apart from other industries (Morrison, 1996). There are three defining features of a typical service: (1) it is intangible and does not exist until provided to the customer, (2) it is non-standardized, and (3) it is produced and consumed simultaneously with the customer observing and participating in the production process. Service quality, although difficult to operationalize, depends mostly on the customer for evaluation, and *how* the service is delivered is an essential factor in the evaluation of quality (Morrison, 1996). We assume here that these are also defining characteristics of health care delivery, and thus improving health care delivery requires focusing on health care customer service.

Health Care Customer Service: Patient-Centered Care

A climate for customer service is facilitated by identification and understanding of what the market expects and needs for quality (Johnson, 1996). The IOM and others have asserted that patient-centered care should be central to all other actions in the health care industry

and put forth patient-centered care as one of its six objectives for increasing the quality of health care (Berwick, 2002). Patient-centered care means tailoring care to "...specific needs and circumstances of each individual..." and that care should be orchestrated so that it responds to the person, "...not the person to the care" (Berwick, 2002, p. 51). Professional care providers need to understand each patient as an individual and to respond to individual needs. When asked, patients have consistently and overwhelmingly indicated that they need to feel respected as individuals, be involved in decisions about their care, and be given the appropriate amount of information about their health conditions and treatment plans (Cleary & Edgeman-Levitan, 1997; Cleary, Edgeman-Levitan, Walker, Gerteis & Delbanco, 1993; Stewart et al., 2000). For the present study, we conceptualized the climate for patient-centered care as a condition in which employees perceive that their work unit enables them to provide patients with care that is tailored to individual patient needs. This means that the work is organized such that processes facilitate nurses getting to know their patients and directing care in accordance with individual patients. This is in contrast to a traditional emphasis on physician- or disease- or efficiency-focused processes. Because the patient voice has driven the definition of patient centeredness, we consider the climate for patient-centered care as the health care equivalent of the climate for customer service. This means that health care organizations should be able to improve their outcomes by developing services utilizing information and feedback provided to them by patients.

The present approach was launched from the foundation provided by the Picker Institute in its qualitative work exploring employee perceptions of the barriers to providing patient-centered care (Picker Institute, 2000). The Picker Institute conducted focus groups with 326 professional health care providers in four U.S. cities. Along with identifying specific barriers, the study found that, in general, professional care providers feel they need the time, information, and resources to provide appropriate levels of care. Although staffing levels are an important factor, adequate staffing is a necessary but not sufficient prerequisite for patient-centered care. Gerteis and Roberts (1993) demonstrated that managerial influences within hospitals have a much greater impact than do external market pressures. Closer examination of work climates could help explain why some hospitals are successful despite staffing shortages, as well as which variables are associated with positive employee and patient experiences.

A key finding in the linkage research stream is that work climates that employees believe to be customer service–oriented are those that are most highly related to positive customer and organizational outcomes

(Johnson, 1996; Wiley & Brooks, 2000). Importantly, employee satisfaction tends to be significantly higher in such organizations as well. In health care, the ability of nurses to form meaningful relationships with patients is often central to their satisfaction (Ulrich, Buerhaus, Donelan, Norman, & Dittus, 2005), and when they feel that they do not have the resources to meet patient care needs, job and career dissatisfaction results (Shaver & Lacey, 2003). Although empirical research has begun to explore work environment–satisfaction relations in health care, none has specifically focused on climates for patient-centered care. The present study attempted to fill some gaps in this research by empirically testing a parsimonious conceptual framework (see Figure 1) derived from the theoretical work of Rathert and May (2005) and Stone et al. (2005). The framework proposes that a work climate for patient-centered care should impact professional health care provider outcomes, such as job satisfaction and feeling safe to report medical errors. In addition, a patient-centered climate should impact patients by reducing medical errors. When the frequency of medical errors is lower, employees should experience less anxiety and concern about medical errors and thus have greater job satisfaction.

Given the emerging theoretical and empirical support for organizational climate research and patient-centered work environments, we put forth the following hypothesis:

H1: Patient-centered climates will be positively related to nurses' job satisfaction.

Patient-Centered Care and Patient Safety

There is rationale for a relationship between patient-centered care and patient safety. Several studies have

Figure 1

Proposed relations among the climate for patient-centered care and outcome variables
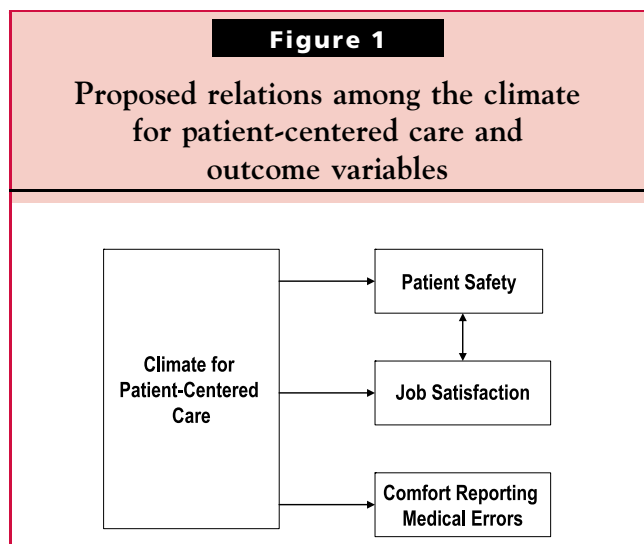
indicated that individualized care and knowing the patient, although fundamental in nursing practice, have not been valued enough by health care organizations in recent years (Page, 2004; Radwin, 1996; Whittemore, 2000). At its worst, a focus on efficiency can present barriers to individualized care (Redman, 2004). There is growing evidence that patients who report greater levels of patient-centered care have better long-term outcomes (Stewart et al., 2000; Flach et al., 2004; Fremont et al., 2001). The present study contributes to this literature by examining the extent to which nurses' perceptions of patient-centered work climates are related to patient safety. Thus,

> *H2:* Patient-centered climates will be positively related to patient safety.

Impact of Medical Errors on Health Care Workers

Patient safety research has focused on the impact of medical errors on patients but has failed to address the impact on professional health care providers. Some studies have noted care provider concerns, but these findings were essentially sidebars when studying other topics. For example, a comparative study of hospital safety cultures found that two thirds of hospital employees at four Massachusetts hospitals worried at least once a day about making a mistake that could injure a patient (Weingart, Farbstein, Davis, & Phillips, 2004), and one qualitative study found that physicians worried regularly about medical errors (Gallagher, Waterman, Ebers, Fraser, & Levinson, 2003). Regular worry about medical errors is likely to affect the well-being and satisfaction of health care workers. Thus, there is a need for better understanding of how patient safety is related to professional health care provider outcomes. Therefore, we expected that,

> *H3:* Patient safety will be positively related to nurses' job satisfaction.

Work Environments and Psychological Safety

Psychological safety means that employees do not fear retribution for expressing their true selves at work (Kahn, 1990). Employee psychological safety could play a role in identifying organizational processes that are likely to lead to medical errors. One study found that hospital work units whose workers had greater psychological safety made more error interceptions than those with lower levels (Edmondson, 1996). Professional care providers need to feel "safe" to report medical errors and near-misses so that sources of systematic error can be studied appropriately. Another study compared written incident reports with results of an anonymous professional care provider survey of medication errors. This study concluded that disproportionate reporting often results in mistaken conclusions about where to target safety improvement initiatives and thus underscored the need for accurate reporting (Antonow, Smith, & Silver, 2000). A patient-centered climate should be more psychologically safe for professional care providers. A climate that is focused on improving the well-being of patients should be more receptive to staff ideas for addressing medical errors, their own or those they observe. Thus, we expected that,

> *H4a:* Patient-centered climates will be positively related to nurses reporting their own medical errors.

> *H4b:* Patient-centered climates will be positively related to nurses pointing out to others the errors they have made.

■ Method

Research Design

The present study was part of a larger project that focused on both professional health care provider and patient perceptions of the acute care hospital environment (Rathert & May, 2006). The large project used a qualitative approach with focus groups to collect data, which served as the basis for the measures developed for this study. We then conducted a cross-sectional field study of both nurses and patients. The present study focuses on nurses' perceptions of the climate for patient-centered care, their comfort with reporting medical errors, and the perceived frequency of medical errors in their work units. Other work from the large project examined patient perceptions of patient-centered care and patient safety issues (Rathert & May, 2006). Unfortunately, care provider and patient data were not able to be linked in the data set.

Participants

All employees who worked at one of three medium-sized acute care hospitals were eligible for this study. The hospitals were members of the same nonprofit health system but were each located in different states in the eastern United States. Each hospital was located in a relatively large metropolitan area. Two hospitals employed approximately 600 staff each, and one employed nearly 1,000. The overall response rate was 57%, and rates were similar across facilities: 52–63%. Given the

complex specialties practiced by employees, we selected for this study a subsample that included only nurses who provided direct care to patients ($n = 307$). Because the job category items were self-reported on the questionnaire, we could not calculate a response rate specifically for nurses. Roughly one third of nurse respondents came from each facility. Most were female (96%), and 86% were employed full time. Forty-three percent had been employed in their hospital 10 years or more; 15% for 6–10 years; 25% for 1–5 years; 8% less than 1 year, and 9% did not answer the question.

Procedure

Surveys were mailed to nurses at their homes. Survey packets included a questionnaire, a cover letter explaining the purpose of the study, and a postage-paid return envelope. Those who had not responded within 2 weeks were mailed a second questionnaire, reminder letter, and return envelope.

Measures

Patient-centered climate. The patient-centered climate measure was created for this study using twelve items that were averaged to create a scale score ($\alpha = .91$). Several items developed from the Picker Institute's (2000) professional care provider study were included. In addition, new items were created based on focus group results using the language of professional care providers. Importantly, items were developed to be actionable, yet capture the concepts of time, information, and resources in conjunction with specific patient-centered activities. Items such as, "Do you feel you are able to get to know your patients well enough to provide them with the level of care you think they need?" and "Do you have the information you need to talk to patients about the delivery of safe care?" were followed by a 4-point response scale where 1 = never, 2 = sometimes, 3 = usually, and 4 = always.

Perceived medication error frequency. Patient safety was measured using a two-item scale ($\alpha = .89$) asking about the frequency of medication errors: "In your work area, do you feel that patients receive the wrong medicines?" and "In your work area, do you feel that patients receive the wrong dosage of medicines?" These items used the 4-point, never–always scale.

Job satisfaction. Four items developed by the Picker Institute's (2000) were averaged for a mean satisfaction score ($\alpha = .81$). Two items asked how satisfied respondents were with aspects of their job, using a 4-point scale where 1 = very satisfied and 4 = very dissatisfied. Two other items asked if employees would recommend the hospital as a place to work and recommend the hospital's care and services to family and friends. These

items used a 3-point scale, where 1 = yes, definitely, and 3 = no.

Comfort reporting own errors. This was measured with a three-item scale ($\alpha = .80$) asking if employees would feel comfortable reporting an error that resulted in harm, an error that did not result in harm, and near-misses. These items were answered on a 3-point scale where 1 = yes, completely, and 3 = no.

Comfort pointing out others' errors. This scale consisted of three items ($\alpha = .87$) asking, "if you were to observe a coworker (supervisor or physician) making an error, would you feel comfortable pointing out the error to that person?" These items used the 4-point, never–always scale.

■ Results

Factor Analysis

We first conducted factor analysis to ensure the discriminant validity of our measures. The factors were theorized to be related to one another, so we used principle axis factoring with oblimin rotation. When forcing five factors, items loaded on their hypothesized factors using a loading criterion of $\geq .400$. No items cross-loaded or failed to load. The items and their factor loadings are shown in Table 1. Table 2 depicts the variable means, standard deviations, reliability estimates, and intercorrelations.

Control Variables

We examined two variables that are often related to job satisfaction (age and job tenure) to determine if they were significantly related to our outcome measures. To help assure employees that their survey responses would not be identifiable, these questions had been asked in the form of nominal, categorical variables. Chi-square analysis revealed no significant relationship between age and job satisfaction, $\chi^2(12, N = 129) = 10.15$, $p = .60$, or between job tenure and job satisfaction, $\chi^2(9, N = 276) = 6.06$, $p = .73$. Relationships among age, job tenure, frequency of medication errors on the unit, and comfort reporting medical errors were also nonsignificant.

Hypothesis Testing

Hypotheses were tested using linear regression models. For Hypothesis 1 (the relationship between patient-centered climate and job satisfaction), results indicated that climate for patient-centered care was significantly related to job satisfaction, $R^2 = .24$, $\beta = .49$, $F(1, 298) = 93.61$, $p < .001$; Table 3. Nurses who perceived their

Table 1

Factor loadings for study variables in principle axis factor analysis

Question Labels	Factor 1 Patient-centered climate	Factor 2 Pointing out others' errors	Factor 3 Frequency of medication errors	Factor 4 Comfort reporting own errors	Factor 5 Care provider job satisfaction
Have enough time to give best patient treatment	.859				
Nurses able to spend enough time with each patient	.827				
Have time to talk about safe care delivery	.796				
Know patients well enough to provide care they need	.780				
Adequate nurse-to-patient ratio for safe care	.738				
Adequate number of nurses for patient acuity levels	.726				
Have information to talk about safe care delivery	.691				
Have time to document required info	.668				
Enough qualified/experienced nurses for workload	.610				
Ability to complete tasks uninterrupted	.565				
Feeling of need to hurry with work	.514				
Complete understanding of patient health conditions	.451				
Feel comfortable pointing out supervisor/mgt error		.868			
Feel comfortable pointing out coworker		.860			
Feel comfortable pointing out physician error		.726			
Patients receive wrong medicines			.875		
Patients receive wrong dosage of medicines			.869		
Comfort reporting error that did not result in harm				.907	
Comfort reporting error that resulted in harm				.783	
Comfort reporting near-misses				.665	
Would recommend as place to work					.866
Would recommend to friends/family					.736
Satisfaction with current job					.624
Satisfaction with equipment/supplies for job					.597

work units to be more patient centered were significantly more satisfied.

Hypotheses 2 and 3 examined the relationship between the perceived frequency of medication errors and the climate for patient-centered care and care provider satisfaction, respectively. Climate for patient-centered care was significantly and negatively related to perceived medication errors, $R^2 = .07$, $\beta = .26$, $F(1, 274) = 20.77$, $p < .001$; Table 4. Nurses who felt that their work unit was more patient centered believed that medication errors occurred significantly less often. Hypothesis 3 was supported as well: Frequency of medication errors

Table 2

Descriptive statistics, reliability, and correlation coefficients for study variables

Variable	Mean	SD	Patient-centered climate	Job satisfaction	Frequency of medication errors	Comfort reporting own errors	Pointing out others' errors
Patient-centered climate	2.43	0.55	(.91)				
Employee satisfaction	2.49	0.55	.49**	(.81)			
Medication errors	3.61	0.54	.27**	.14*	(.89)		
Comfort reporting own errors	1.38	0.50	.13*	.16**	.01	(.80)	
Comfort pointing out others' errors	3.34	0.76	.08	.11	.05	.27**	(.87)

*p < .05.

**p < .01.

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Table 3

Regression results for effects of climate for patient-centered care on job satisfaction

Variable	B	SE B	β	R²
Climate for patient-centered care	.48*	.05	.49	.24

*p < .01

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Table 5

Regression results for perceived frequency of medication error on employee satisfaction

Variable	B	SE B	β	R²
Frequency of medication error	.15*	.06	.15	.02

*p < .05

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was significantly and negatively related to satisfaction, $R^2 = .02$, $\beta = .15$, $F(1, 274) = 5.54$, $p < .05$; Table 5. Nurses who perceived higher frequencies of medication errors in their work units were less satisfied than those who perceived fewer errors.

Hypotheses 4a and 4b predicted that a climate for patient-centered care would be positively related to care providers feeling comfortable reporting their own medical errors and near misses and to care providers feeling more comfortable pointing out the errors of coworkers, supervisors, and physicians as well. Hypothesis 4a was supported; that is, climates for patient-centered care predicted employee comfort reporting their own errors, $R^2 = .02$, $\beta = .13$, $F(1, 275) = 4.49$, $p < .05$; Table 6. However, Hypothesis 4b was not supported. Although a climate for patient-centered care was related to how comfortable nurses were reporting their own errors and near-misses, it did *not* affect their comfort pointing out to others the errors they had made.

Discussion

Study Contributions

This study's primary objective was to begin filling in some gaps in patient safety research by empirically exploring the theoretical relationships between the health care work environment and nurse and patient outcomes. The study developed a care provider perception measure of the work climate for patient-centered care and obtained preliminary support for the measure's construct validity. A climate for patient-centered care has been proposed in organizational models of patient safety as an antecedent to patient safety and care provider job satisfaction (Rathert & May, 2005; Stone et al, 2004). The present study found empirical support for these theoretical relationships. Nurse perceptions of the patient centeredness of the work climate explained 24% of the variance in job satisfaction and also explained 7% of the variance in the perceived frequency of medication errors occurring on the unit. Perceived frequency of medication errors explained 2% of the variance in job satisfaction, a relatively small but significant amount. In contrast to the assumption that employee satisfaction leads to better patient outcomes, our data suggest that the hospital work environment is related to *both* care provider job satisfaction and patient outcomes. Although a causal direction cannot be established from these data, our results suggest that more attention to work climates would be a fruitful direction for research and practice.

An additional contribution of this study is that it was the first step in developing and testing in health care a customer service climate–customer satisfaction model which has been empirically supported in other industries (Wiley & Brooks, 2000). This model

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Table 4

Regression results for effects of climate for patient-centered care on perceived frequency of medication errors

Variable	B	SE B	β	R²
Climate for patient-centered care	.25*	.06	.26	.07

*p < .01

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Table 6

Regression results for climate for patient-centered care on comfort reporting medical errors

Variable	B	SE B	β	R²
Climate for patient-centered care	.12*	.05	.13	.02

*p < .05

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is important because it brings health care provider perspectives into the picture when trying to explain patient outcomes. Health care is a construct that cannot be fully understood without studying both the patient and the care provider, as health care is, by definition, an *interaction* between these two stakeholders. Although this study did not directly test this interaction, development of care provider measures for use in future health care linkage research is a first step. Importantly, our employee scale reflected conceptually what *patients* have consistently said is important to them and to what extent the work environment enabled provision of care that is important to patients. Our approach to this climate scale measure for care providers is consistent with the linkage research, which asserts that appropriate measures need to consider how the customer defines quality (Johnson, 1996).

Much of the content in the patient-centered climate scale reflected care provider desires to have enough time to give patients care they felt was necessary and appropriate, spend time getting to know patients as individuals, have adequate staffing, and have the information they need to provide the best care possible. Although other research has found that appropriate staffing ratios are an important contributor to quality of care (Page, 2004), data from the present study help to explain *why* an optimal staff to patient ratio is important. It may be that it will take more than simply adding numbers of staff to improve patient safety. Managing the work environment so that care providers can offer more individualized care could be an essential component of improving employee and patient outcomes.

The study found limited support for the hypotheses that a climate for patient-centered care is related to greater care provider comfort in reporting medical errors. Care providers who perceived their work environments to be more patient centered were more likely to say they felt comfortable reporting medical errors and near-misses. However, care providers were no more likely to say that they would point out other people's errors given an environment for patient-centered care. This suggests that there are additional components of the work environment that may be necessary to help improve error reporting and patient safety. As has been discussed elsewhere, the tradition of medical and clinical practice is entrenched in personal responsibility, hierarchy, and punitiveness when it comes to medical error (Kohn, Corrigan, & Donaldson, 2000). Thus, there may be a myriad of work environment factors important for increasing psychological safety to the extent required for care providers to feel comfortable reporting and discussing medical errors.

Note: While consistent with bivariate correlations, Tables 4–6 provide quick assessment of the variance explained in the variable relations.

Study Limitations

One limitation of the present study is that climate perceptions and care provider–patient outcomes would be better tested at the unit and/or organization level of analysis. For example, the evidence would have been stronger had the study found a relationship between *care provider* perceptions of the work environment and *patient* perceptions of patient-centered care and safety. Indeed, most of the employee–customer linkage research has been conducted at the organization level of analysis (Wiley & Brooks, 2000).

Another limitation is that the data used for hypothesis testing were cross-sectional, and variables were measured using the same survey instrument. Therefore, we cannot infer causal relationships among the variables. Although we used confirmatory factor analysis to examine the discriminant validity of the variables, it is possible that some relationships were inflated because of common method variance. Patient safety was measured by asking nurses their perceptions of the frequency of medical error occurrence in their work units, a limited measure at best. In addition, although the sample size was adequate for the study, the sample came from only three hospitals. Although the hospitals were in different regions, they were all members of the same health system. Thus, it is possible that these results are not generalizable to all acute care hospitals and patients. Future research will need to establish the generalizability of these findings. Finally, Likert scales, such as the ones used in this research, although technically ordinal, are often used in the social sciences with interval procedures such as regression. Jaccard and Wan (1996 p.4) have noted that "for many statistical tests, rather severe departures (from intervalness) do not seem to affect Type I and Type II errors dramatically." Nevertheless, future research may wish to use more categories in their Likert-type scales (e.g., seven categories) to reduce the likelihood of deviation from a normal distribution.

Management Implications

Given the current and predicted future nursing shortages, it becomes imperative for managers to do what they can to attract and retain high-quality employees. Much human resource emphasis has been placed on *selecting* the "best" employees for the job. However, not only are fewer people entering the field of nursing, but also, many experienced nurses are leaving the profession because of frustration and burnout (Page, 2004). Thus, human resource managers should focus on retention as well as selection. An understanding of the hospital work environment will give managers the tools that they can use to keep good employees from leaving by enhancing

the care provider–patient interaction, ultimately improving satisfaction.

Because service quality is difficult to operationalize and evaluate, focus on work climates in which health care services take place will provide managers with tangible mechanisms to influence the employee–patient interaction. Management practices that have been demonstrated to impact important climate attributes can be cultivated. Specifically, patient-centered work climates can be facilitated through management decisions and actions that prioritize patient-centered care, satisfaction, and safety. Leaders can remove barriers that prevent the provision of patient-centered care. For example, nurses can be encouraged by upper management to spend the time they need with patients to understand individual needs and communicate information. Nurses can be empowered to examine work processes and make suggestions for improving work flow to help facilitate getting to know patients as individuals. For example, they could be invited to revise documentation procedures so that they would spend less of their clinical time documenting. Strategies for increasing psychological safety have been reported elsewhere (Nembhard & Edmondson, in press) and would facilitate comfort reporting medical errors. Managing the work environment to facilitate these changes will likely impact the perceptions that professional health care providers have about the climate for patient-centered care.

Managers can thus be made to account for variables they can control instead of distal goals such as turnover, patient satisfaction results, or revenues. When unit managers have knowledge and documentation of evidence-based best practice mechanisms, the organization should be more adaptive to change. If, for example, managers understand the *mechanisms* that result in climates for patient-centered care, they can focus on maintaining those mechanisms even when process changes must occur (Rathert & May, 2005). Targeting for improvement those practices that are related to both employee and patient satisfaction should contribute to efficiency and quality of care.

Future Research

Development of theoretical models for the understanding of hospital work environments is a first step toward providing health care managers the evidence-based management tools they need. The present study provides support for the continued development and testing of models that link the health care work environment to important organizational outcomes. Larger conceptual models must be formally tested in health care organizations to provide empirical evidence for linkages between nurse perceptions and outcomes. In addition,

these models should be studied in other professional care provider populations.

As with the general employee–customer linkage research, there is also the need to address the issue of causality and identify potential mediators between predictors and outcomes. Experimental field studies that manipulate some work climate components will further our understanding of how and why work environments link to care provider and patient outcomes.

Once empirical support is obtained for conceptual work environment models, the relationships between leadership, health care work environments, and organizational outcomes can be explored. Leadership studies can explore how the organization's mission and values are manifested in the work environment, and specific leadership behaviors that impact these work environment dimensions can be identified.

In conclusion, some experts have been disappointed with the slow progress in reducing medical errors in the United States (Leape & Berwick, 2005). Perhaps, by looking at work environment factors that either facilitate or present barriers to patient-centered care, we can find new directions for improvements in quality, patient safety, and care provider and retention. Data from the present study suggest that this is a fruitful direction.

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