Nursing Environment

The following summaries of recent peer-reviewed studies and articles describe the impact of the nursing environment on the reduction of patient suffering and best practices for improving patient outcomes, the nursing environment, and nursing processes. Citations are linked to articles when available.

### Improved Patient Outcomes

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| Aiken, L. H., Cimiotti, J. P., Sloane, D. M., Smith, H. L., Flynn, L., & Neff, D. F. (2011). Effects of nurse staffing and nurse education on patient deaths in hospitals with different nurse work environments. Medical Care, 49(12), 1047-1053. | To determine the effect of nurse staffing, education, and work environment on mortality and failure to rescue rates.                                                                                       | ▪ Good nurse work environments are defined as those with:  
  - Strong doctor-nurse relationships  
  - Nurses involved in hospital affairs  
  - Responsive management  
  - Continuing education opportunities  
  ▪ Decreasing patient load by one patient per nurse affected mortality and failure to rescue rates differently based on the nursing environment:  
  - Best environments: 9% decrease in mortality, 10% decrease in failure to rescue.  
  - Average environments: 4% decrease in each.  
  - Poor environments: No influence on mortality or failure to rescue.  
  ▪ A 10% increase in the percentage of BSNs on staff reduced mortality and failure to rescue rates by 4% regardless of other environmental factors. |
  ▪ Factors related to lower HAPU incidence:  
  - Odds decrease 2-3% for each 1-unit increase in RN workgroup job satisfaction in critical care, medical, and rehabilitation units.  
  - Odds decrease 3% for each 1-year increase in RN unit tenure.  
  - A 19% lower incidence in Magnet hospitals step-down and medical units versus non-Magnet. |
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| Choi, J., & Staggs, V. S. (2014). *Comparability of nurse staffing measures in examining the relationship between RN staffing and unit-acquired pressure ulcers: a unit-level descriptive, correlational study*. International Journal of Nursing Studies, 51(10), 1344-1352. | To examine correlations among six nurse staffing measures and unit acquired pressure ulcers (UAPUs). | ▪ RN-reported number of assigned patient was highly correlated with RNHPPD and RN skill mix.  
▪ RN-perceived staffing adequacy was the best predictor of UAPU occurrences.  
▪ Among the six staffing variables (total nursing HPPD, RN HPPD, non-RN HPPD, RN skill mix, RN-reported number of assigned patients, and RN-perceived staffing adequacy), only RN skill mix and RN-perceived staffing adequacy were significant predictors of UAPU occurrences. |
▪ **Fall rates** decrease with:  
  – Experienced Registered Nurses (RNs) on staff  
  – Longer RN tenure on a unit  
▪ For every 1-point increase in nursing hours per patient day, the fall rate dropped by 0.3%. |
  – One more UTI and two more SSIs per 1000 patients for every 10% increase in nurse burnout rate  
▪ More than one-third of all nurses report high levels of job-related burnout.  
  – Significant cost savings is associated with reduced burnout. |
▪ Lower fall rates in units with:  
  – Higher total nursing hours per patient day  
  – Higher percentage of RNs  
  – Longer RN unit tenure  
▪ Lower hospital-acquired pressure ulcer rates in units with:  
  – Higher percentage of RNs on staff  
  – Longer RN unit tenure  
  – More frequent pressure ulcer risk assessments |
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| Furukawa, M. F., Raghu, T. S., & Shao, B. B. (2010). Electronic medical records, nurse staffing, and nurse-sensitive patient outcomes: Evidence from the National Database of Nursing Quality Indicators. Medical Care Research and Review, 68(3), 311-331. | To study associations between electronic medical record (EMR) implementation, nurse staffing, and nurse-sensitive patient outcomes.                                                                          | - EMR implementation was associated with an increase in the percentage of RNs on staff and increased total number of hours per patient day (TNHPPD):  
  - Higher RN percentage was associated with fewer falls and injury falls.  
  - TNHPPD was positively associated with falls and injury falls. |
  - Fall rates were reduced in seven of nine studies.  
  - In eight of nine studies, hourly rounds resulted in improvements in:  
    - Overall patient satisfaction  
    - Likelihood to recommend  
    - Attention to personal needs  
    - Timeliness of nurses' response  
    - Pain management |
| He, J., Dunton, N., & Staggs, V. (2012). Unit-level time trends in inpatient fall rates of US hospitals. Medical Care, 50(9), 801-807. | To examine trends in the rate of total inpatient falls. | - Factors correlating to lower fall rates include:  
  - A higher percentage of register nurses  
  - Higher total nursing hours per patient day  
  - 300 or more beds |
| Kelly, D., Kutney-Lee, A., Lake, E. T., & Aiken, L. H. (2013). The critical care work environment and nurse reported health care associated infections. American Journal of Critical Care, 22(6), 482-488. | To determine correlations between critical care nurse work environment and nurse reported health care associated infections. | - A better work environment is defined as scoring above the 75th percentile on the Practice Environment Survey scales for staffing and resource adequacy, nurse participation in hospital affairs and quality, collegial nurse-physician relations, nurse manager ability, and leadership support.  
  - Health care-associated infections are 36% to 41% less likely in better critical care work environments. |
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| Potter, C., Dunton, N., & Staggs, V. (2012) | An assessment of nursing characteristics’ effect on hospital acquired infection rates. | - Nursing specialty certifications are the key to lower infection rates:  
  - Units with Critical Care certified RNs (CCRN) had lower Catheter Associated UTI rates.  
  - Units with Cardiac Surgery Certified RNs had lower Central Line Associated Blood Stream Infection (CLABSI) rates.  
- Higher RN hours per patient day was associated with lower CAUTI and CLABSI rates.  
- High use of agency RNs was associated with higher Ventilator Associated Pneumonia (VAP) rates.  
- CAUTI, CLABSI, and VAP rates were higher in academic medical centers than in teaching or non-teaching facilities. |
| Sherrod, B. C., Brown, R., Vroom, J., & Sullivan, D. T. (2012) | To evaluate the effectiveness of a purposeful rounding program for decreasing falls and HAPUs, and increasing patient satisfaction with nursing services. | - Falls with injury was reduced after implementing hourly nursing rounds.  
- Post-implementation patient satisfaction scores had significant improvement with all questions above the 75th percentile. |
| Stein, S. M., Day, M., Karia, R., Hutzler, L., & Bosco, J. A., III (in press) | To examine the relationship between complication rates and patient perceptions of care. | - Several complication rates were higher with lower overall ratings of 9 or 10:  
  - Serious pressure ulcers  
  - Venous catheter associated infections  
  - Venous thromboembolism  
  - Manifestations of poor glycemic control  
  - Postoperative deaths from serious treatable complications  
  - Postoperative wound dehiscence |
| Tzeng, H. M., Hu, H. M., & Yin, C. Y. (2011) | To determine contributions of inpatient satisfaction measures and nurse staffing on fall rates. | - The higher the inpatient satisfaction levels with the quietness of hospital environment, the lower the injurious fall rates.  
- Responsiveness to call lights was identified as a factor related to fall-prevention efforts. |
## Improved Nursing Environment

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▪ Multiple management characteristics are associated with improved patient safety:  
  – Be highly visible  
  – Listen carefully to nurses’ concerns and seek nursing input for problem resolution  
  – Consistently demonstrate support for nursing  
  – Give praise and recognition |
| Bamford, M., Wong, C. A., & Laschinger, H. (2013). *The influence of authentic leadership and areas of work-life on work engagement of registered nurses*. *The Journal of Nursing Management*, 21(3), 529-540. | To examine the relationships among **management skills, nurses job satisfaction, and engagement.** | ▪ Authentic leaders are hopeful and optimistic, practice with a high ethical standard, focus on staff priorities, and are true to their values even when challenged.  
▪ Nurses who work for managers demonstrating authentic leadership report higher:  
  – Job satisfaction  
  – Engagement  
  – Trust in leadership  
  – Perceived quality of care  
▪ Engagement and burnout both correlate strongly to each of the following:  
  – Involvement in organizational decision making  
  – Rewards and performance feedback  
  – Relationships with colleagues  
  – Organizational value for nursing  
  – Coaching  
▪ Heavy workloads and increased overtime lowered job satisfaction. |
▪ RN workgroups in pediatric units were the most satisfied.  
▪ RN work groups in surgical and emergency department unit types were least satisfied.  
▪ > 60% highly satisfied with nurse-to-nurse interaction, professional status, and professional development.  
▪ < 40% satisfied with tasks, decision making, and pay. |
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- Baby Boomer nurses perceived higher levels of wellbeing and commitment, and lower intention to leave. |
| Choi, J., & Boyle, D. K. (2014). *Differences in nursing practice environment among US acute care unit types: A descriptive study.* International Journal of Nursing Studies, 51(11), 1441-1449. | To explore variations in the nursing practice environment at the unit level. | - Nursing environment variations by unit type were identified:  
  - Neonatal and pediatric units had the most favorable practice environment.  
  - Obstetric and psychiatric units had the lowest scores for manager support.  
  - Medical-surgical units had the lowest scores for staffing, nurse-physician relations, and resource adequacy.  
  - Emergency departments score high in nurse-physician relationships, but low on nurse manager support, and staff and resource adequacy.  
- Lower ratings of the nursing practice environment were significantly related to higher nurse burnout.  
- Nursing environment variations by hospital type were identified:  
  - Magnet score higher than non-Magnet  
  - Non-teaching score higher than teaching  
  - West region hospitals score higher than the Northeast |
| Clavelle, J. T., Drenkard, K., Tullai-McGuinness, S., & Fitzpatrick, J. J. (2012). *Transformational leadership practices of chief nursing officers in Magnet organizations.* Journal of Nursing Administration, 42(4), 195-201. | To identify top characteristics of Magnet CNOs. | - Transformational leaders are best at inspiring a shared vision and challenging the process:  
  - 60 years and older  
  - Doctorate degree  
  - Long tenure in leadership  
  - Mentored by predecessors  
  - Effectively communicates expectations |
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| Dempsey, C., Reilly, B., Buhlman, N. (2014). *Improving the patient experience: Real-world strategies for engaging nurses*, *Journal of Nursing Administration*, 44(3), 142-151. | To discuss findings associated with nursing care practices, and the nursing environment that have a positive effect on the patient experience. | Nursing interventions shown to improve the nursing environment and the patient experience include:  
- Purposeful hourly patient rounds: Decreases call light use and falls, and increases overall patient satisfaction.  
- Bedside shift reports: Improves continuity of care, involvement of patients, use of a structured handover tool, and active patient checks.  
- Leadership rounds: Improves leadership engagement.  
- Formal nurse manager training: Improves leadership and mentoring capabilities, staff retention, and management-staff relations. |
| Feather, R. A., Ebright, P., & Bakas, T. (in print). *Nurse manager behaviors that RNs perceive to affect their job satisfaction*, *Nursing Forum*. | To identify leadership traits that improve nurses’ job satisfaction. | Leadership skills strongly correlated with higher levels of RN job satisfaction:  
- Highly visible and easily accessible  
- Confident  
- Informs staff of organizational decisions  
- Actively listens to staff, body language matters  
- Obtains necessary resources and resolves conflicts  
- Adapts policies and scheduling to individual situations  
- Provides breaks  
- Staffs adequately  
- Knows how to be a nurse, acts as part of the team, and effectively communicates how the manager’s work directly relates to nursing  
- Praises publicly and often, addresses problems privately |
| Figueroa, S., Bulos, M., Forges, E., & Judkins-Cohn, T. (2013). *Stabilizing and retaining a quality nursing work force through the use of the Married State Preceptorship Model*, *The Journal of Continuing Education in Nursing*, 44(8):365-373. | To assess the effectiveness of a preceptorship model on new nurse retention. | Transitioning nursing graduates into practice with a dedicated preceptor improved nurse retention to 96%. The success of this model relied on the following:  
- Preceptors trained in adult education and standards for imparting organization, prioritization, and communication skills to nursing graduates.  
- New nurses shadowed preceptors for six months, during which task loads were gradually increased.  
- Preceptor availability continued post preceptorship to provide ongoing support and facilitate autonomy. |
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• RNs with AACN certification were less likely to leave their position.  
• Years of experience also decreased nurses' likelihood to leave. |
• A weak positive relationship exists between job satisfaction and nurse staffing.  
• Job dissatisfaction is related to the number of patients assigned. |
• Access to opportunities for education and professional growth rated the highest among the empowerment subscales, followed by support, access to information, and availability of resources respectively.  
• Workplace empowerment is related to:  
  - Control over work  
  - Manageable workloads  
  - Recognition for contributions  
  - Fair procedures  
  - Working relationships  
  - Symmetry between personal and organizational values |
  1. Nursing orientation includes:  
     - Welcome letter, gift, and breakfast with nursing leaders, staff, and preceptors  
     - Peer-mentoring program that provides 1:1 support for novice RNs for 6 months  
  2. Leadership rounding: Leadership visit staff weekly to discuss concerns and wins.  
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<td>4. Employee recognition: Leaders provide monthly, public recognition of superior care or teamwork (especially in periods of high acuity or census).</td>
<td>Adequate nurse staffing contributed to better patient outcomes.</td>
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<td>5. Stretch assignments: Managers empower staff to create interventions to overcome work challenges.</td>
<td>▪ Adequate nurse staffing contributed to better patient outcomes.</td>
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| McAlearney, A. S., & Robbins, J. (2013). Using high-performance work practices in health care organizations a perspective for nursing. *Journal of Nursing Care Quality, 29*(2), 11-20. | To determine the effect of nursing work practices on RN engagement, retention, and perceptions of the quality of care. | ▪ Nurses are more engaged and less likely to burn out when they have:  
  – Visible CNO and management  
  – Adequate resources  
  – Rigorous orientation for new nurses  
  – Ongoing educational opportunities  
  – Access to quality data  
  – Frontline involvement in quality improvement planning  
  ▪ Higher nurse recruitment, retention, and perceptions of quality care correlate to:  
  – Visible leadership  
  – Collaboration and good communication  
  – Shared decision making |
  – Competitive salary and benefits  
  – Positive working relationships  
  – Flexible scheduling  
  – Opportunities for continued education  
  ▪ RNs reported higher perceptions of their work and work environment than licensed practical nurses did.  
  ▪ Community health nurses reported higher levels of job satisfaction and perceptions of work quality than nurses in acute and long-term care.  
  ▪ Offer midcareer nurses:  
  – Opportunities to be engaged in mentoring initiatives with new staff  
  – Organizational leadership awards acknowledging clinical expertise and contributions  
  – Specialty education or certifications |
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<td>Moneke, N., &amp; Umeh, O. J. (2013).</td>
<td><strong>Factors influencing critical care nurses’ perception of their overall job satisfaction.</strong></td>
<td>- Leadership practices and organizational commitment have statistically significant relationships to job satisfaction.</td>
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<td>To explore factors influencing critical care nurses’ perception of their overall <strong>job satisfaction</strong>.</td>
<td>- Critical care nurses were more committed to the organization when leaders:</td>
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<td>- Model the way</td>
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<td>- Inspire a shared vision</td>
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<td>- Challenge the process, seek and support innovation</td>
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<td>- Listen to and build relationships with nurses</td>
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<td>- Focus on the positive</td>
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<td>- Employees who feel personally cared for have higher levels of commitment, are more conscientious about responsibilities, have greater involvement in the organization, and are more innovative.</td>
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<td>- Job satisfaction is directly related to nurses’ ability to impact policy.</td>
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<td>Moneke, N., &amp; Umeh, O. J. (2013).</td>
<td><strong>How leadership behaviors impact critical care nurse job satisfaction.</strong></td>
<td>- There are statistically significant relationships between job satisfaction and leaders who:</td>
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<td>To explore the influence of managerial <strong>leadership on job satisfaction</strong> of critical care nurses.</td>
<td>- Demonstrate accountability and transparency</td>
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<td>- Inspire a shared vision through active listening and relationship building with nurses</td>
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<td>- Enable others to act by entrusting nurses with autonomy and responsibility for change</td>
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<td>- There are weak but significant correlations between job satisfaction and leaders who challenge the process and seek innovation.</td>
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<td>To determine the effect of hourly rounding on <strong>fall rates, call light usage, and patient satisfaction</strong> in an inpatient medical-surgical patient population.</td>
<td>- Enlist staff champions to ensure consistency in nurses’ hourly rounding behaviors.</td>
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<td>- Distribute data to staff as positive reinforcement of rounding outcomes.</td>
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| Pavlish, C., & Hunt, R. (2012).            | To develop deeper understandings about nurses’ perceptions of meaningful work. | ▪ Environmental factors that facilitate meaningfulness in nursing:  
  − A learning-focused environment  
  − Teamwork  
  − Constructive management  
  − Allowing time with patients to be a caring presence and make meaningful connections  
 ▪ Barriers include:  
  − A task-focused environment  
  − Stressful work relationships  
  − Divisive management |
| Tinkham, M. R. (2013).                     | To identify activities and characteristics of high performing nursing environments. | ▪ High performers in quality and safety shared the following leadership characteristics:  
  − Shared governance model  
  − Leadership development strategy that includes mentoring  
  − Highly visible nursing leadership  
  − Human resources support of nursing managers  
  − Leadership succession planning |
## Improved Nursing Process

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| Bakker, D., & Keithley, J. K. (2013). Implementing a centralized nurse-sensitive indicator management initiative in a community hospital. Journal of Nursing Care Quality, 28(3), 241-249. | To describe a centralized **data management initiative** that facilitates analysis and response to Nursing Sensitive Indicators (NSIs). | - A 100% increase in performance improvement activity and a 4% increase in overall NSI performance was realized.  
- Initial data analysis is necessary to identify gaps in collection and performance based on national measures and benchmarks.  
- Create a nursing data council comprised of nursing, quality and IT leadership accountable for the following:  
  - Creating unit level NSI reports  
  - Allocating resources  
  - Mentoring nurse managers and staff in data analysis, interpretation, and response  
  - Holding nurse managers accountable for reacting to the data on a pre-set timeframe |
- Receive intensive training on evidence-based pressure ulcer practice  
- Educate staff on pressure ulcer practice, and assist with care plan development  
- Round on at-risk patients to ensure implementation of pressure ulcer interventions  
- Monitor compliance, and identify barriers to providing evidence-based care  
- Involve unit staff in ownership of action plans for improvement  
- Celebrate successes |
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<td>Bergquist-Beringer, S., Dong, L., He, J., &amp; Dunton, N. (2013).</td>
<td>To assess the effect of <strong>pressure ulcer prevention efforts</strong> on the incidence of hospital-acquired pressure ulcers (HAPU).</td>
<td>▪ Patients who received a pressure ulcer risk assessment on admission were less likely to develop a HAPU.</td>
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| *Pressure ulcers and prevention among acute care hospitals in the United States*. Joint Commission Journal on Quality and Patient Safety, 39(9), 404-414. |                                                                           | ▪ Variables associated with lower HAPU rates:  
  – Routine repositioning  
  – Magnet/Magnet-applicant  
 ▪ Variables associated with higher HAPU rates:  
  – In need of nutritional support  
  – Moisture management  
  – Larger hospital size  
  – Academic medical center status |
| Reimer, N., & Herbener, L. (2014).                                    | To examine how diverse **rounding methods** affect patient outcomes and patient and staff satisfaction. | ▪ Apply multiple rounding strategies to realize measurable improvements in clinical, patient experience, and culture outcomes:  
  – Hourly patient rounds by nursing staff  
  – Daily interdisciplinary patient rounds  
  – Daily teaching rounds by a unit based educator  
  – Daily unit manager patient rounds  
  – Daily unit manager staff rounds  
  – Quarterly Chief Nursing Officer (CNO) nursing staff rounds  
  – Senior executive rounds on one unit per month  
 ▪ Set a schedule to avoid overlapping rounds.  
 ▪ Recap previous discussions and provide opportunities for all participants, including the patient and family, to contribute information and ask questions.  
 ▪ Script 3 to 5 questions for each rounding type. |