

# Evaluation of Selected Components of the Nurse Work Life Model Using 2011 NDNQI RN Survey Data

Nancy Ballard, MSN, RN, NEA-BC

Marge Bott, PhD, RN

Diane Boyle, PhD, RN

# Objectives

- Identify the relationship of components of the practice environment using Laschinger's Nurse Worklife Model as a guiding framework.

# Practice Environment

- Predicted Nursing Shortage<sup>1</sup>
  - 285,000 by 2020
- NQF, CMS, & AHRQ recognize importance<sup>2,3,4</sup>
  - Patient Outcomes
  - Nurse Perceived Quality of Care
  - Nurse Satisfaction

<sup>1</sup>The Joint Commission, 2010

<sup>2</sup>Aikin, Clarke, Sloane, Sochalski, & Silber, 2002;

<sup>3</sup>Needleman, Buerhaus, Mattke, Stewart, & Zelevinsky, 2002;

<sup>4</sup>Laschinger, 2008; Patrician, Shang, & Lake, 2010

# Measurement of the Practice Environment

- Valid and reliable tools:
  - Practice Environment Scale (Lake, 2002)
  - Conditions of Work Effectiveness Questionnaire-II (Lachinger, et al., 2001)
  - Essentials of Magnetism-II (Kramer & Schmalenberg, 2008)

# Nurse Worklife Model

- See Reference below for the model figure

Figure 1. From "Relationships of Work and Practice Environment to Professional Burnout: Testing a Causal Model" by M. Leiter and H. Laschinger, 2006, *Nursing Research*, p 139. Copyright 2006 by Lippincott Williams & Wilkins. Reprinted with permission

# The Question is . . .

- Do the components of the practice environment interact at the unit level as predicted using the Nurse Worklife Model framework?

# Nurse Worklife Model

## Literature Review

- Tested a causal model using SEM (Leiter & Laschinger, 2006)
- Extended NWLM to include nurse-reported adverse outcomes (Laschinger & Leiter, 2006)
- Evaluated the impact:
  - Structural empowerment on job satisfaction (Manojlovich & Lachinger, 2007)
  - Perceived quality on job satisfaction (Laschinger, 2008)

# Job Satisfaction Literature Review

- Meta-analysis from 1/2004 through 3/2009 at individual nurse level (Hayes, Bonner & Pryor, 2010)
  - 17 studies – 44 important factors
  - Nurse manager important to structural factors
  - Work-related factors: autonomy, co-worker interactions, patient activities



# Job Satisfaction Literature Review

## (cont'd)

- Unit level study: Unit type influence on job satisfaction (Boyle, Miller, Gajewsky, Hart & Dunton, 2006)
- Evaluation of healthy work environment: 717 units in 34 Magnet hospitals (Kramer, Maguire, & Brewer, 2011)

# Research Question 1

- At the unit level, does RN-MD collaboration (*PES-Collegial RN-MD Relations*) and involvement in policy development (*PES-Participation in Hospital Affairs*) mediate the relationship between strong leadership (*PES-Nurse Manager Ability*) and a nursing model of care (*PES-Nursing Foundations for Quality Care*)?

## Research Question 2

- At the unit level does RN-MD collaboration (*PES-Collegial RN-MD Relations*), involvement in policy (*PES-Participation in Hospital Affairs*) and a nursing model of care (*PES-Nursing Foundations for Quality of Care*) mediate the relationship between strong leadership (*PES-Nurse Manager Ability*) and staffing adequacy (*PES-Staffing and Resource Adequacy*)?

## Research Question 3

- At the unit level, does RN-MD collaboration (*PES-Collegial RN-MD Relations*), involvement in policy development (*PES-Participation in Hospital Affairs*), staffing adequacy (*PES-Staffing & Resource Adequacy*), and a nursing model of care (*PES-Nursing Foundations for Quality of Care*) mediate the relationship between strong leadership (*Nurse Manager Ability*) and RN personal accomplishment (*Job Enjoyment Scale*)?

# Methods

- Secondary analysis of 2011 unit level RN data
- Correlational Path Analysis testing for the mediators of Job Satisfaction using the NLWM framework.
- Hierarchical Regression used to identify the variation in job enjoyment using the PES subscales to represent components of the NLWM

# Setting and Sample

N = 322,457 RNs in 3,583 Units

(medical, surgical, medical-surgical, stepdown, & critical

Demographic*	Mean (SD)	Range	Percentage
Age	39.3(4.87)	25-75	N/A
Certification	N/A	0-100	16.7
BSN or Higher	N/A	0-100	55.4
Female	N/A	0-100	91.0
White	N/A	0-100	69.8

\*Demographics are aggregated to the unit level

# Hospital Demographics

	N (%)		N (%)
<b>Bedsizes</b>		<b>Hospital Ownership</b>	
<100	239 (6.7)	Not for Profit	2,979 (83.1)
100-199	697 (19.5)	Government Fed.	53 (1.5)
200-299	832 (23.2)	Government Non-Fed.	334 (9.3)
300-399	673 (18.8)	For Profit-Investor Owned	217 (6.1)
400-499	476 (13.3)		
500+	666 (18.6)		
<b>Total</b>	<b>3,583 (100)</b>		<b>3,583 (100)</b>

# PES Subscale Definitions

Subscale	Definition (NWLM Component)	Items	Cronbach's Alpha
<b>Collegial RN-MD Relations</b>	Presence of collaborative working relationship ( <b>RN-MD Collaboration</b> )	3	.87
<b>Nurse Participation in Hospital Affairs</b>	Policy development and decisions about practice ( <b>Policy Involvement</b> )	9	.90
<b>Staffing and resource adequacy</b>	Staffing level is adequate to provide the care needed ( <b>Staffing Adequacy</b> )	4	.88
<b>Nurse manager ability, leadership, and support</b>	Nursing manager viewed as a leader who provides strong support ( <b>Strong Leadership</b> )	5	.90
<b>Nursing Foundations for Quality of Care</b>	Nursing practice is supported by high standards, professional nursing philosophy, education, expectation of competency, and measurement of quality ( <b>Nursing Model of Care</b> )	10	.88
<b>Job Enjoyment</b>	Measurement of job satisfaction ( <b>Personal Accomplishment</b> )	7	.92



# Results

Subscale	Dependent Variable					
	Model 1: Foundations for Nursing Quality Care		Model 2: Staffing Resource Adequacy		Model 3: Job Enjoyment Scale	
	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2
	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$
Practice Environment Scale (PES)						
Nurse Manager Ability	.74**	.18**	.67**	.21**	.75**	.24**
RN-MD Collegiality		.19**		.08**		.10**
Participation in Hospital Affairs		.63**		.24**		.06**
Nursing Foundations for Quality Care				.32**		.06**
Staffing Resource Adequacy						.56**
$R^2$	.54	.24	.44	.14	.56	.23
Adj. $R^2$	.56	.80	.47	.61	.57	.80
SE of Estimate	.14	.10	.28	.24	5.99	4.06
F	4,360**	2,102**	2,937**	434**	4,653**	1,055**

\*\*  $p < .001$

# Unit Level Findings

- NLWM supported:
  - Partial mediation of Strong leadership (*Nurse Manager Ability*) effect on Nursing Model of Care (*Nursing Foundations of Quality*) and Staffing Adequacy (*Staffing & Resource Adequacy*)
  - Direct effect of Strong Leadership (*Nurse Manager Ability*) on Personal Accomplishment (*Job Enjoyment*)
- 80% of variance in *Job Enjoyment* explained by the subscales in the model.

# Findings

- 3 components of PES significant predictors of Job Enjoyment
  - Staffing and Resource Adequacy
  - Nurse Manager Ability
  - RN-MD Collaboration

# Strengths

- Large national sample
- Standardized definitions
- Standardized data collection process

# Limitations

- Selection Bias:
  - NDNQI higher percentage of Magnet facilities
  - Hospitals under 100 beds under-represented

# Recommendations

- Based on findings from both Kramer and Boyle:
  - Measurement of the practice environment and job satisfaction at the unit level are important to understand the complexities within the work setting.
- Further study at the unit level needed in other areas of practice to evaluate the NWLM.

# Acknowledgements

University of Kansas Medical Center

School of Nursing

WellStar Health System

Kennesaw State University