



COLUMBIA UNIVERSITY

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# Promoting Primary Care Delivery in the U.S. Through Effective Utilization of Nurse Practitioner Workforce

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# Primary Care in the United States (U.S.)

Demand for primary care services in the U.S. is ↑ due to:

- Aging population
- Growing chronic disease burden
- Insurance expansion



# Nurse Practitioners in the United States

- The growing nurse practitioner (NP) workforce can help meet the demand for primary care services
- NP workforce is expected to grow by 93% between 2013 and 2025



# Policy and Practice Barriers Faced by NPs

- **Scope of practice (SOP)**: 29 states require supervisory or collaborative relationships with physicians to provide care
- **Organizational barriers**: NPs do not have adequate access to organizational resources for optimal practice or face lack of clarity in their role within employment settings



# Purpose of the Study

- Examine NP practice, work environment, and NP outcomes (i.e. turnover) in two states with different SOP regulations
- Determine how state SOP and organizational barriers impact NP work environment, NP outcomes and patient panel status



# Methods

- **Design**: Cross-sectional survey used to collect data from 314 primary care NPs in Massachusetts (MA) and 278 from New York (NY) in 2012
- **Data Collection**: Mail survey in MA and online survey in NY



# Survey Tool

- NPs completed measures of **work environment, job satisfaction, turnover & panel status**
- **Nurse Practitioner Primary Care Organizational Climate Questionnaire (NP-PCOCQ)**: Validated instrument used to measure NP work environment



# NP-PCOCQ

Contained the following four subscales:

- **NP-Physician Relations (NP-PR)**
- **NP-Administration Relations (NP-AR)**
- **Independent NP Practice and Support (IPS)**
- **Professional Visibility (PV)**





# Independent Variables

- **States**: Massachusetts (MA) and New York (NY)
- **Organization Types**: Physician office, community clinic, and hospital



# Dependent Variables

- **NP Work Environment**: Measured by the NP-PR, NP-AR, IPS, and PV subscale mean scores
- **Job Satisfaction**: Satisfied/dissatisfied
- **Turnover**: Intent on leaving position within next year
- **Panel Status**: Own or share patient panel



# Statistical Analysis

- **Multivariate Analysis of Variance**: Used to determine effect of state SOP and organization type on NP work environment and outcomes
- **Chi-Square Tests**: Used to determine effect of state and organization type on job satisfaction, turnover & panel status



# Demographic Characteristics of Sample

Characteristics	NY (n=278)	MA (n=314)	p-value
<b>Age (years)</b>			
Mean (SD)	52.0 (9.6)	49.3 (11.1)	.004
Range	24-75	26-71	
<b>Sex % (N)</b>			.0004
Female	90 (220)	97 (291)	
<b>Race % (N)</b>			.88
White	93 (219)	93 (258)	



# Work Environment by State

Subscale	NY Mean (n=278)	MA Mean (n=314)	p-value
NP-PR	3.18	3.36	<0.05
NP- AR	2.74	2.87	<0.05
IPS	3.29	3.48	<0.05
PV	2.85	3.15	<0.05

Note: All item responses on each subscale range from 1 (lower) to 4 (higher)



# Work Environment by State

- Mean scores on all 4 subscales measuring work environment were statistically significantly different between 2 states
- NPs in MA reported statistically significantly higher levels of work environment than NPs in NY



# Work Environment by Organization Type

Subscale	Physician Office (n=225)	Community Clinic (n=111)	Hospital (n=118)	ANOVA p-value
NP- PR	3.33	3.31	3.18	0.06
NP- AR	2.84	2.85	2.61	< 0.05
IPS	3.40	3.47	3.21	< 0.05
PV	3.00	3.16	2.81	< 0.05

Note: All item responses on each subscale range from 1 to 4



# Work Environment by Organization Type

- NPs in community clinics reported statistically significant higher levels of work environment quality in 3 of 4 subscales than other organization types (NP-AR, IPS and PV)
- NPs in physician offices reported highest levels of quality in relationships with physicians (NP-PR)





# Job Satisfaction, Turnover and Panel Ownership by State

Measure	MA (%)	NY (%)	p-value
Job Dissatisfaction	22	30	<0.05
Turnover	11	19	<0.05
Panel Ownership	45	40	0.58



# NP Outcomes and Panel Ownership by Organization Type (% of NPs)

Measure	Physician Office	Community Clinic	Hospital	p-value
Job Dissatisfaction	24	29	28	0.71
Turnover	14	17	15	0.68
Panel Ownership	36	67	42	<0.05



# NP Outcomes and Panel Ownership by Organization Type

- Neither job dissatisfaction nor turnover varied significantly by organization type
- NPs in community clinics reported a statistically significant higher proportion of panel ownership than physician offices and hospitals



# Conclusions

- Better work environments in MA might be explained by the state's less restrictive SOP regulations in 2012
- Poor work environments in hospital-based clinics attributable to the setting's hierarchical organizational structure



# Implications

- Addressing work environment issues and creating effective environments is needed to fully exploit the capacity of the NP workforce
- State and organizational reforms should be considered to maximize the NPs' contribution to patient care



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