What Factors Predict a Physician's Decision to Enter Practice in Rural Areas?

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ABSTRACT

Purpose of Study: There is a growing recognition that the geographic maldistribution of physicians is a more problematic issue than the overall supply. In general, physicians tend to congregate in more affluent urban areas while more rural locations remain underserved. There is an increasing number of residency programs designed to encourage physicians to practice in rural locations, but the geographic maldistribution of physicians continues to be problematic. This study examines factors that affect a physician's decision to practice in rural locations. Among the predictors considered are life style factors such as being in a long-term relationship and having dependent children.

Methods: The primary data source for the study was the New York Resident Exit Survey. This annual survey of physicians completing residency or fellowship training in New York has been conducted in collaboration with teaching hospitals in the state since 1998 (61% response rate). The survey collects extensive information on new physicians' demographic and educational backgrounds, post-training plans, and job market experiences. Only physicians with confirmed practice plans were included in the analysis and international medical graduates (IMGs) on temporary visas were excluded due to practice restrictions. The primary analytic technique was multinomial logistic regression. The dependent variable practice location had 3 categories: rural, suburban, and urban.

Key Findings: There were a number of factors associated with a physician's decision to practice in a rural area, including medical school location, specialty, dependent children, and job market experience. To be more specific, primary care physicians, international medical graduates, physicians with dependent children, and physicians who had to change their plans due to limited practice opportunities were more likely to practice in rural areas compared to urban areas. A number of these factors were also associated with a physician's decision to practice in a rural area compared to a suburban location, with an exception being having dependent children.

Implications: This study found that a number of factors affect a physician's decision to enter practice in a rural location. These findings have broad implications. The factors found to be predictive and non-predictive of a physician's decision may help inform programs designed to encourage physicians to practice in rural areas. If certain factors predict entering practice in rural areas, it may benefit rural track programs to consider these factors when evaluating potential candidates.

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INTRODUCTION

There is a growing recognition that the geographic maldistribution of physicians is a more problematic issue than the overall supply. In general, physicians tend to congregate in more affluent urban areas while more rural locations remain underserved. There is an increasing number of residency programs designed to encourage physicians to practice in rural locations, but the geographic maldistribution of physicians continues to be problematic. This study examines factors that affect a physician's decision to practice in rural locations. Among the predictors considered are life style factors such as being in a long-term relationship and having dependent children.

METHODS

The primary data source for the study was the New York Resident Exit Survey. This annual survey of physicians completing residency or fellowship training in New York has been conducted in collaboration with teaching hospitals in the state since 1998 (61% response rate). The survey collects extensive information on new physicians' demographic and educational backgrounds, post-training plans, and job market experiences.

A multinomial logistic regression model was used to explore the effect of various factors on a physician's initial practice location after completing training. Three practice locations were considered: urban, suburban, and rural. The reference category for the model was rural. The model pools data from the last 3 years of the survey (2014–2016). Only physicians with confirmed practice plans were included in the analysis and international medical graduates (IMGs) on temporary visas were excluded due to practice restrictions.


Figure 1. Path Diagram for Practice Location Multinomial Logistic Regression Model, 2014 – 2016

- Demographic and Education Characteristics
- Lifestyle Factors
- Job Market Experiences

→ Practice Location after Completing Training
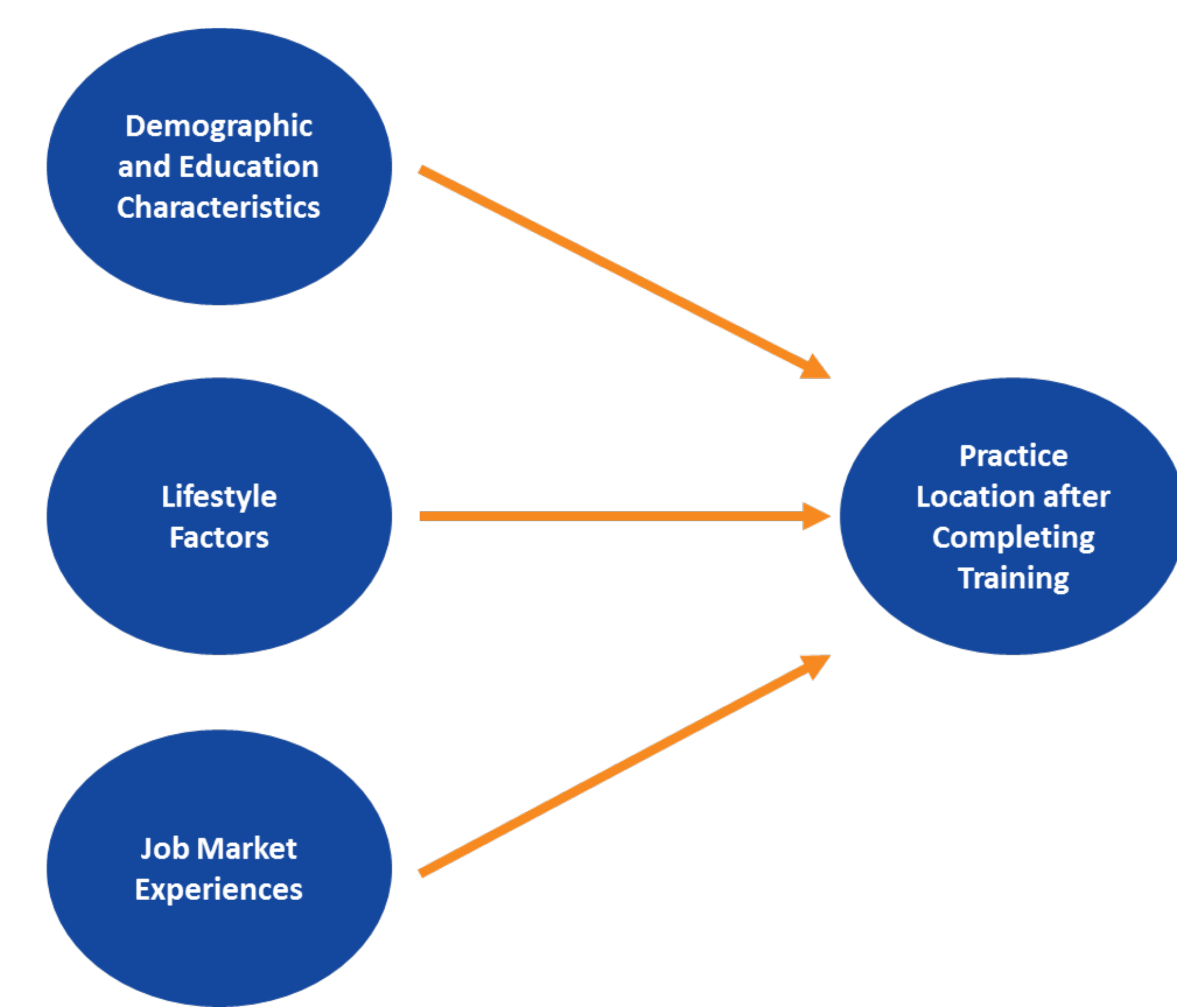
RESULTS

- The majority of physicians enter practice in urban locations after completing training.

Figure 2. Practice Location of Physicians After Completing Training, 2014 – 2016

51% Urban, 33% Suburban, 16% Rural

■ Urban ■ Suburban ■ Rural
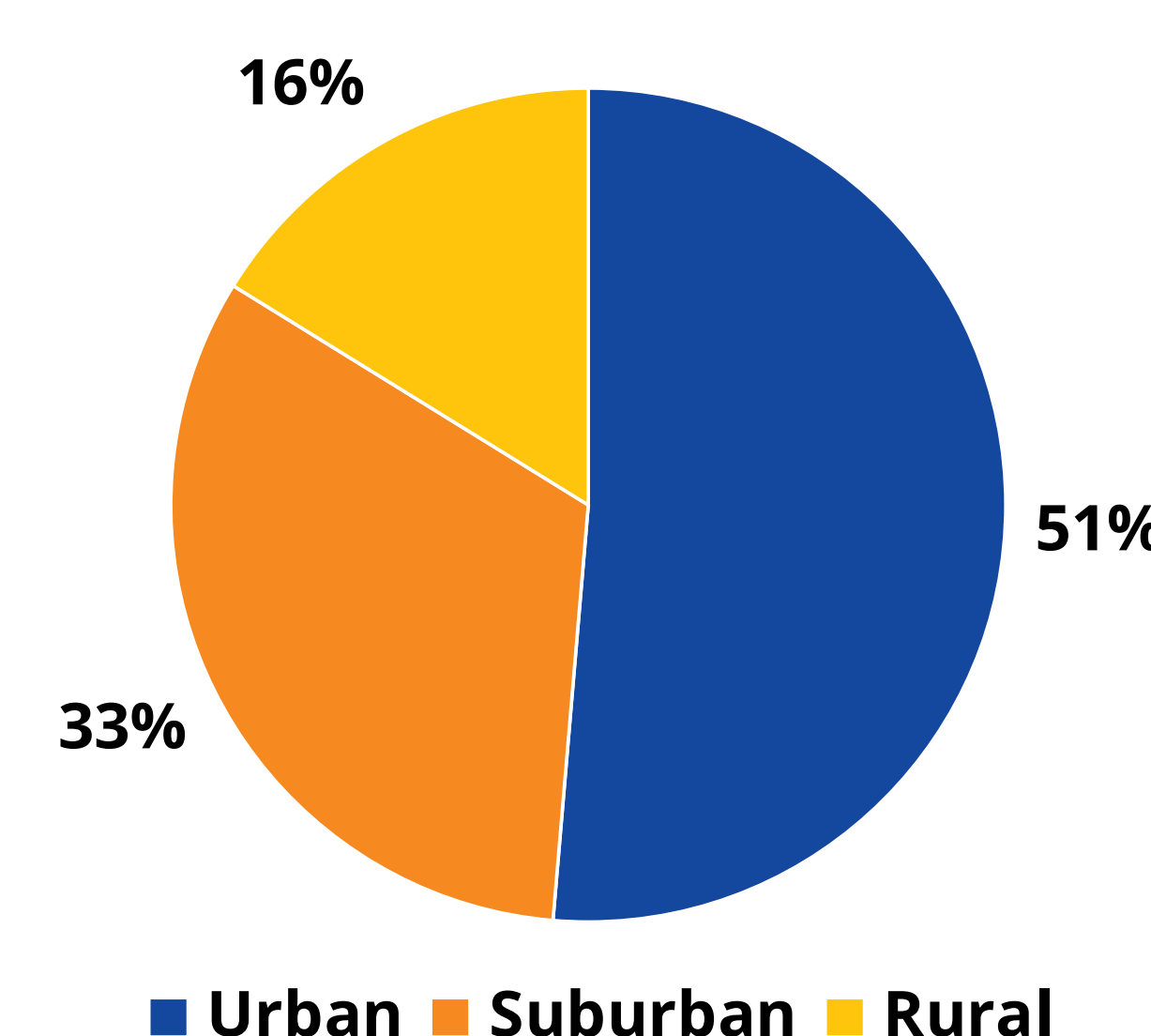
Table 1. Descriptive Statistics of Variables in Practice Location Multinomial Logistic Regression Model, 2014–2016 (n = 2,644)

Variable	Urban	Suburban	Rural	Total
Gender				
Female	49%	46%	44%	47%
Male	51%	54%	56%	53%
Race/Ethnicity				
URM	17%	13%	15%	15%
Non-URM	84%	87%	85%	85%
Medical School Location				
International School	43%	43%	63%	46%
U.S. School	58%	57%	37%	54%
Specialty Group				
Primary Care	31%	33%	43%	33%
Non Primary Care	69%	67%	57%	67%
Type of Education				
Osteopathic (DO)	9%	15%	13%	11%
Allopathic (MD)	91%	86%	87%	89%
Relationship Status				
Married/Long-term Rel.	75%	80%	80%	78%
Single/Divorced	25%	20%	20%	22%
Dependent Children				
Yes	34%	38%	44%	37%
No	66%	62%	56%	63%
Predictable Day				
Very Important	37%	41%	39%	38%
Not Very Important	64%	59%	61%	62%
Length of Day				
Very Important	34%	39%	33%	35%
Not Very Important	66%	61%	67%	65%
Overnight Calls				
Very Important	47%	51%	50%	49%
Not Very Important	53%	49%	50%	51%
Weekend Duties				
Very Important	47%	50%	47%	48%
Not Very Important	53%	50%	53%	52%
Had to Change Pract. Plans				
Yes	14%	17%	23%	16%
No	86%	84%	77%	84%
Mean Education Debt (in $1,000s)	$127,202	$138,600	$113,670	$128,712
Perception of Regional Job Market (Likert Score)	0.91	0.92	0.78	0.89
Perception of National Job Market (Likert Score)	1.61	1.60	1.67	1.62

RESULTS (cont.)

- Physicians with dependent children were more likely to practice in rural areas compared to urban areas.

Table 2. Practice Location Multinomial Logistic Regression Model, 2014–2016 (Reference Category: Rural)

Variable	Urban		Suburban	
	Exp(B)	Sig	Exp(B)	Sig
Demographic and Education Characteristics				
Female	1.093	0.441	0.942	0.626
URM	1.007	0.965	0.890	0.497
International Med School	0.466	0.000	0.531	0.000
Osteopathic (DO)	0.438	0.000	0.741	0.131
Mean Education Debt (in $1,000s)	1.000	0.905	1.000	0.383
Primary Care Specialty	0.602	0.000	0.677	0.004
Lifestyle Factors				
Married/Long-term Rel.	0.829	0.211	1.018	0.091
Dependent Children	0.720	0.010	0.839	0.189
Predictable Day	0.749	0.119	0.747	0.138
Length of Day	1.268	0.230	1.379	0.123
Overnight Calls	0.940	0.734	1.195	0.359
Weekend Duties	1.110	0.565	0.904	0.601
Job Market Experiences				
Had to Change Pract. Plans	0.526	0.000	0.680	0.014
Perception of Regional Job Market (Likert Score)	1.153	0.017	1.241	0.001
Perception of National Job Market (Likert Score)	0.800	0.022	0.744	0.044

KEY FINDINGS

A number of factors were associated with a physician's decision to practice in a rural area, including medical school location, specialty, type of education, dependent children, and job market experience.

- Primary care physicians, Doctors of Osteopathic Medicine (DOs), IMGs, physicians with dependent children, and physicians who had to change their plans due to limited practice opportunities were more likely to practice in rural areas compared to urban areas.

- These factors were also associated with a physician's decision to practice in a rural area compared to a suburban location, with the exceptions being DOs and physicians with dependent children.

- Physicians who reported a strong regional job market were less likely to practice in rural areas and physicians who reported a strong national job market were more likely to practice in rural areas.

These findings have broad implications. The factors found to be predictive and non-predictive of a physician's decision may help inform programs designed to encourage physicians to practice in rural areas. If certain factors predict entering practice in rural areas, it may benefit rural track programs to consider these factors when evaluating potential candidates.