Internal Migration Profile and Spatial Distribution of Healthcare Workers in the United States, 2005-2019

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Objective

- Content Logistic regression models to investigate factors associated with internal migration of different healthcare occupational groups at the local level (groups of public-use microdata areas).

- Estimate the Local Indicator of Spatial Association (LISA) to demonstrate spatial clusters of healthcare worker internal migration patterns.

Background

- Healthcare workforce shortage and COVID-19 demonstrated healthcare equity also includes local supply of healthcare workers

- Labor market conditions, professional network, and healthcare hierarchy all impact healthcare worker internal migration.

Data and Methods

- Dependent variable: internal migrant status

- 2005-2019 American Community Surveys

- Areas of destination (current residence)

  - Publicly available data has information on Public Use Microdata Areas (PUMAs) as the lowest level of geographic aggregation (100,000+ residents)

- Areas of origin (previous residence)

  - Data relates to PUMAS or, for confidentiality issues, groups of PUMAs (also known as MIGPUMAs)

- Logistic regression models

- Local Indicators of Spatial Association (LISA)

Individual-level Independent Variables

- Race-Ethnicity, Education, Age, Citizenship, Foreign-born status

- English speaking ability, Disability status

- Marital status, presence of children in the household, Home ownership status

- Healthcare occupational categories, Wage quartiles

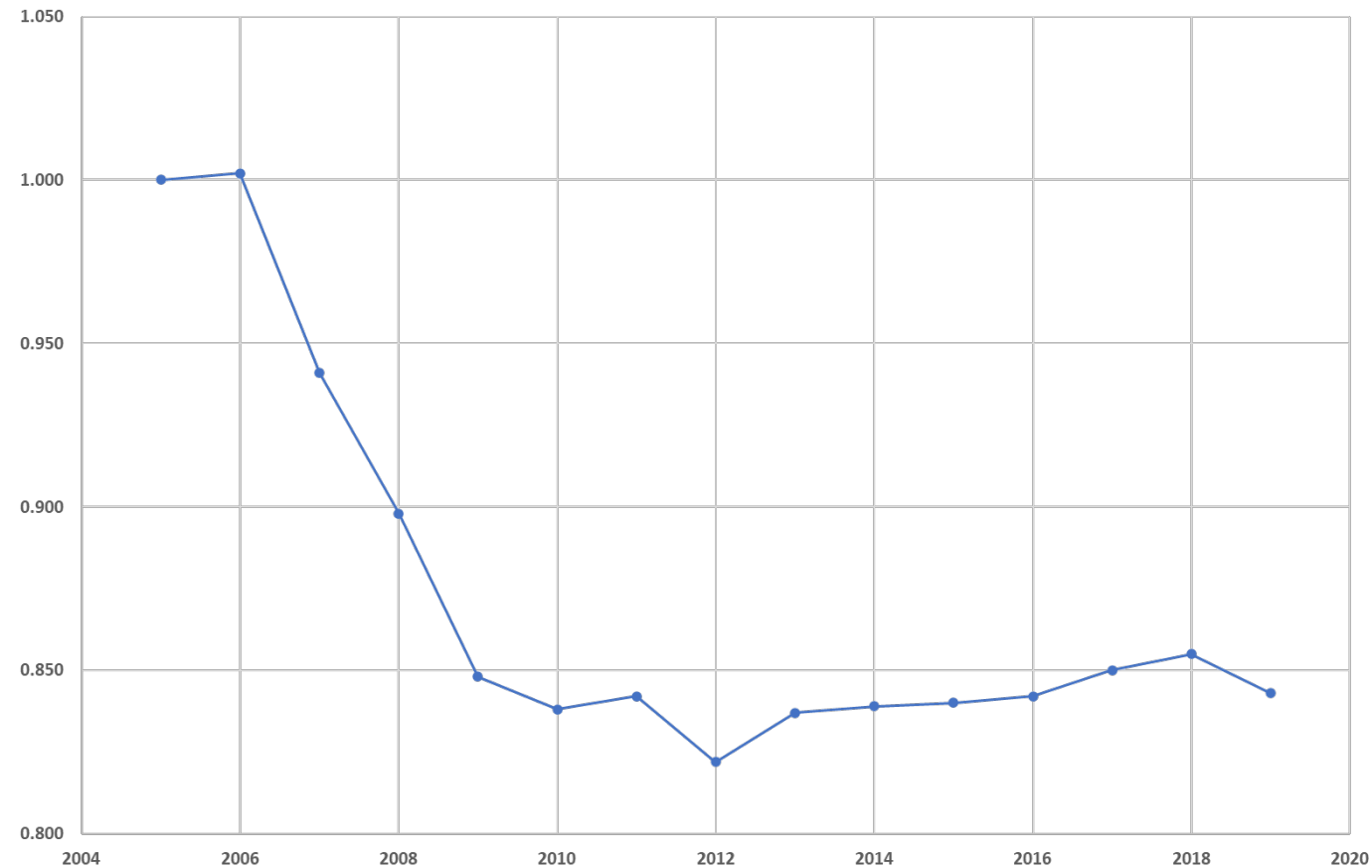- Region (Northeast, Midwest, South, West), Year

Healthcare Internal Migrants by Year

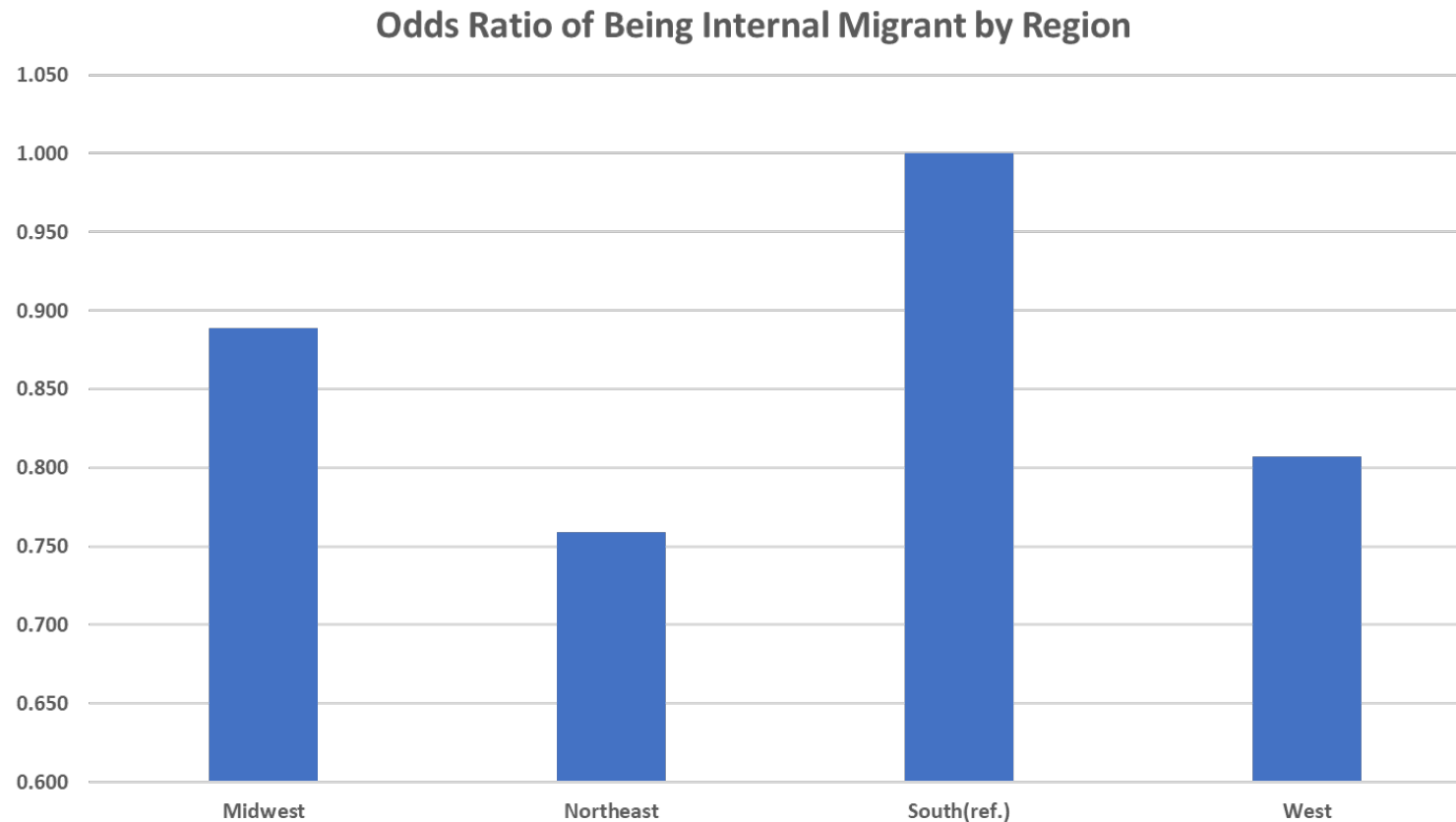Percentages Within Healthcare Occupation Groups as Internal Migrants
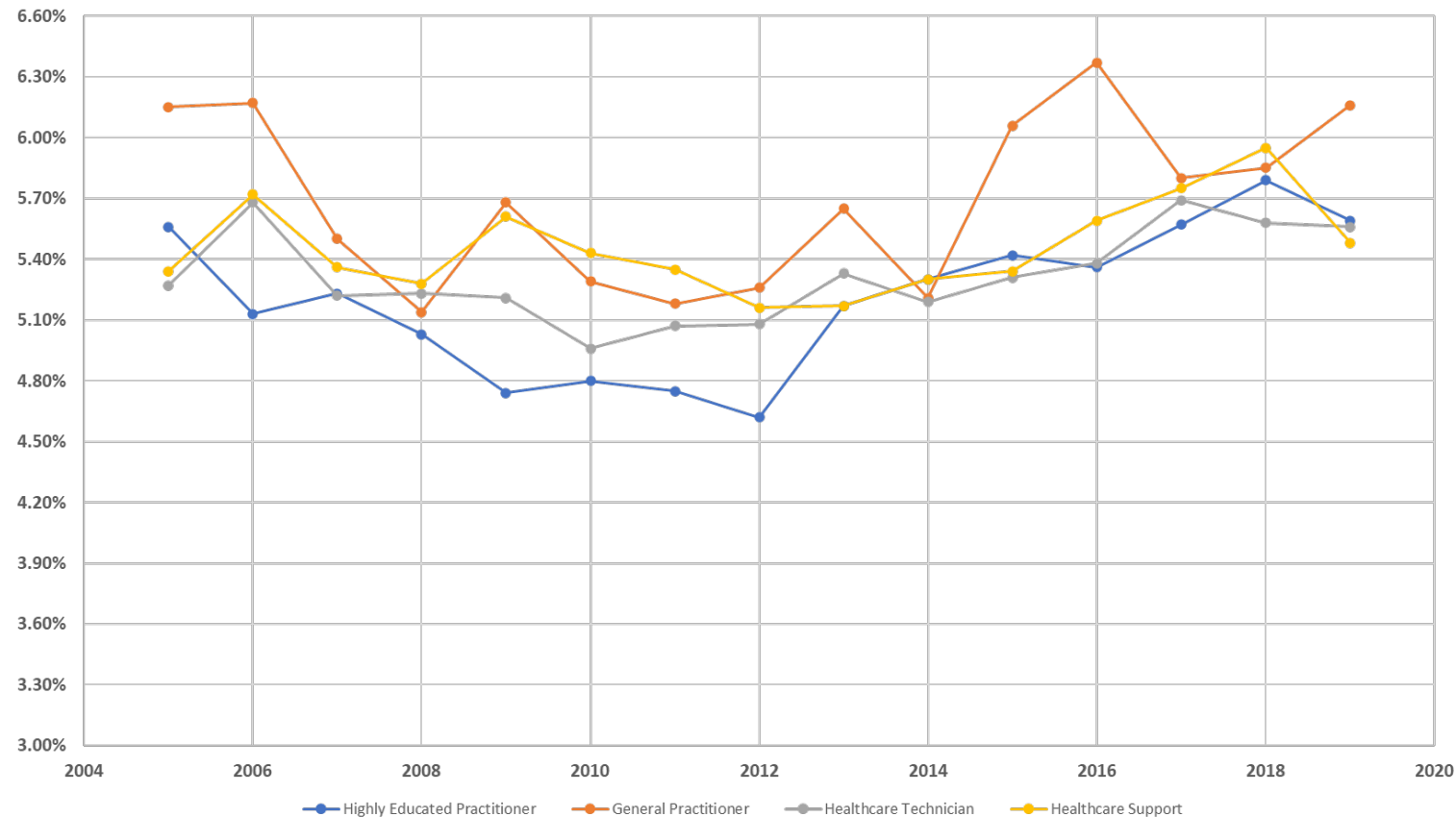
Odds Ratios of Being a Healthcare Internal Migrant by Year

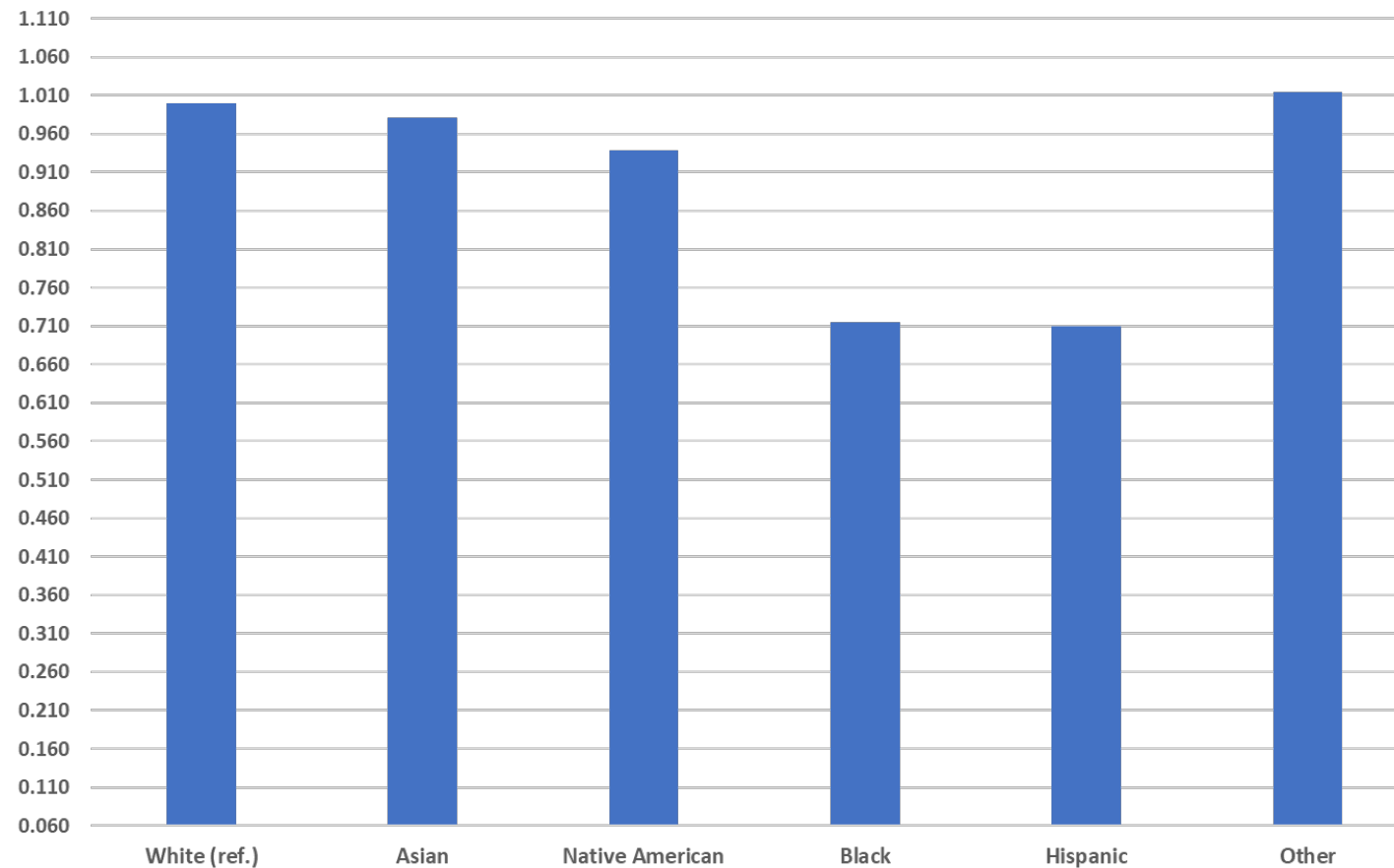
Odds Ratio of Being Internal Migrant

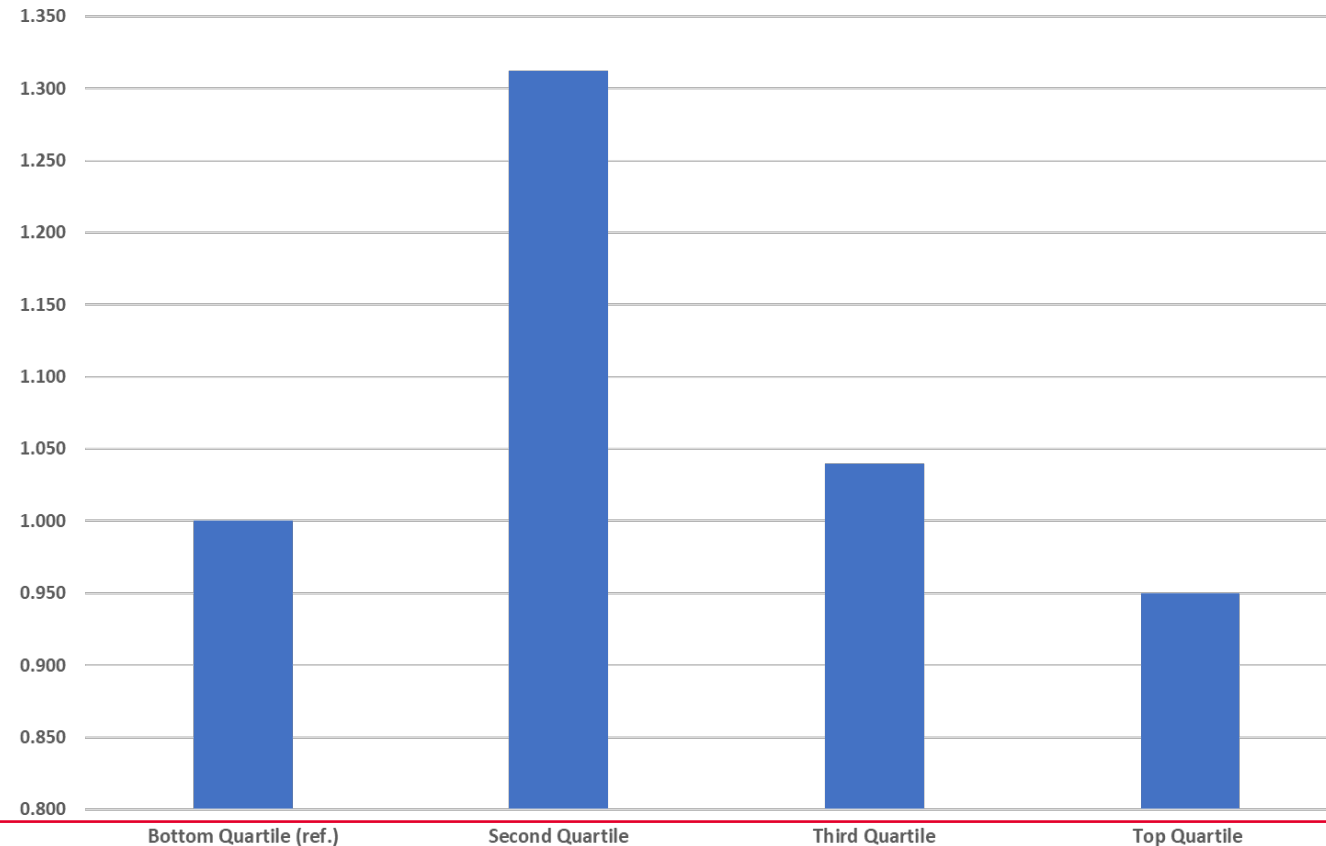# Odds Ratios of Being a Healthcare Internal Migrant by Region

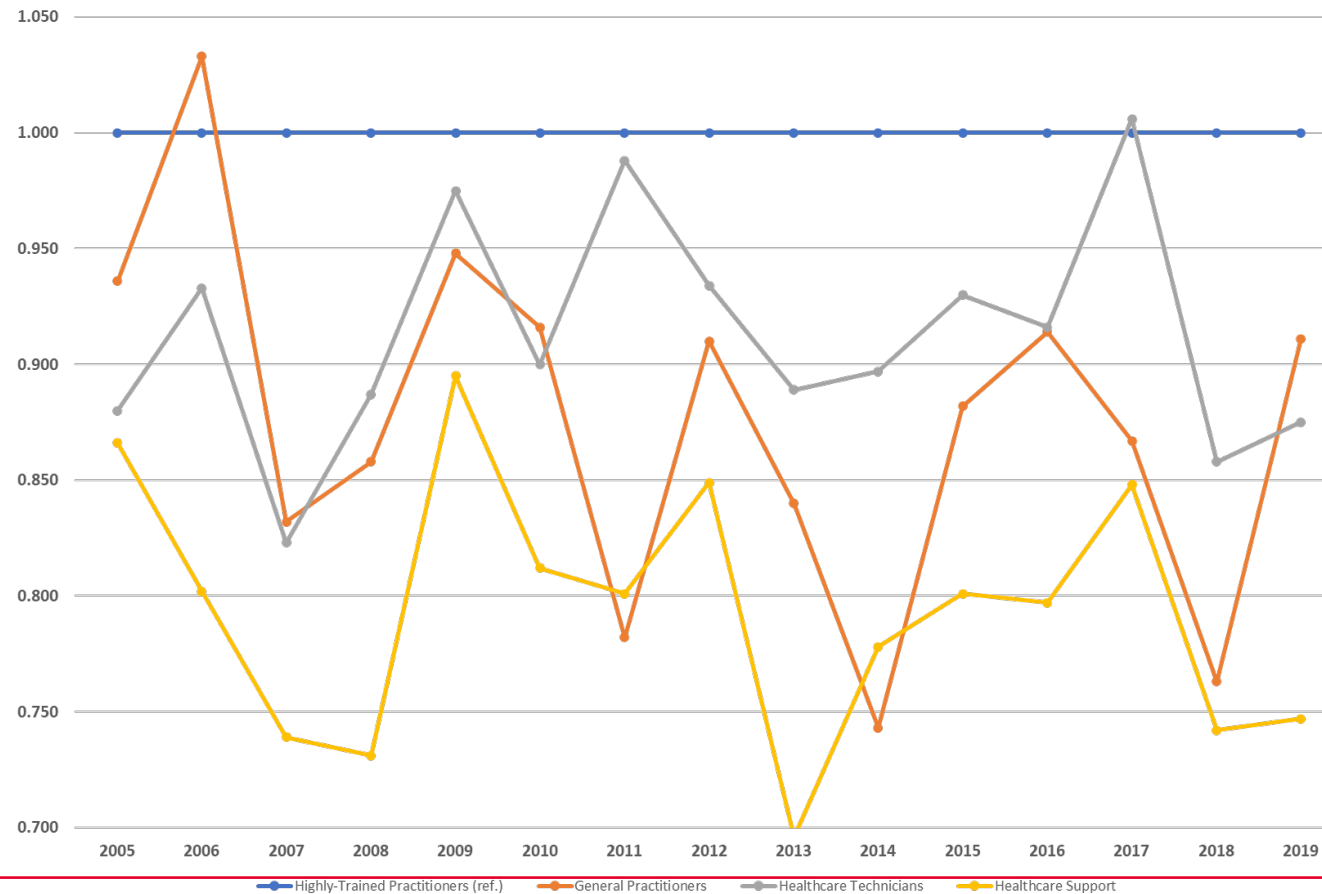Odds Ratio of Being Internal Migrant by Region

Odds Ratios of Being a Healthcare Internal Migrant by Wage Income

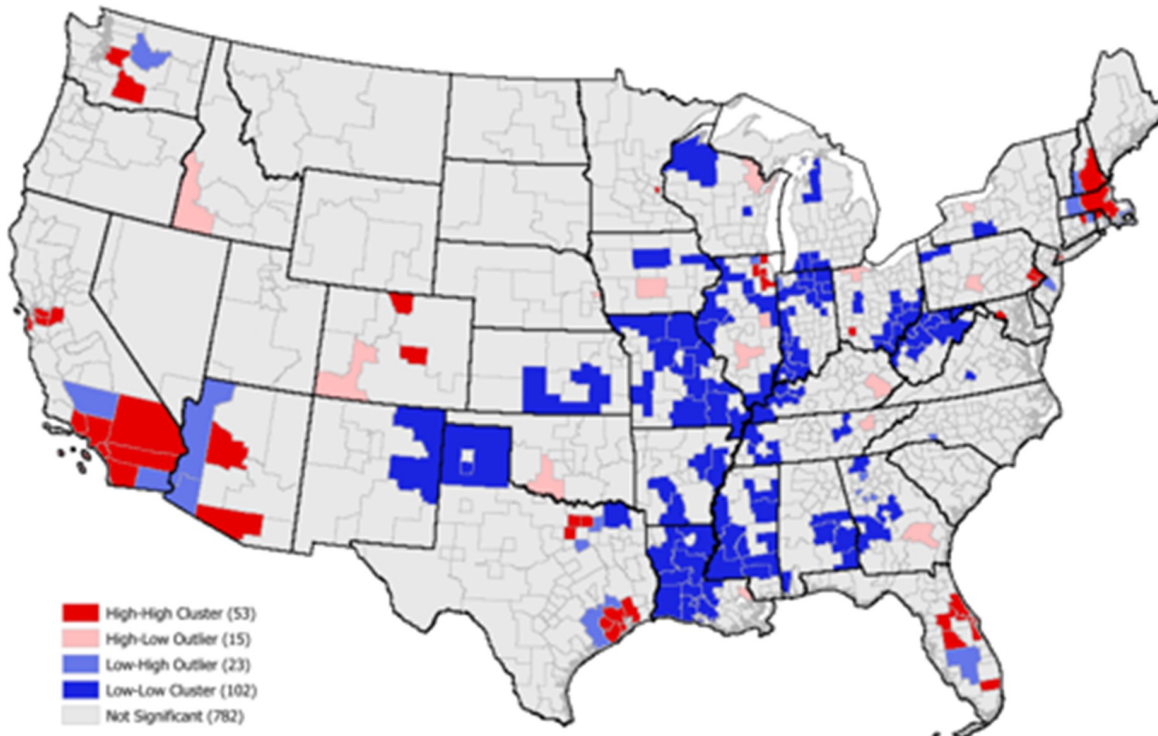**Odds Ratio of Being Internal Migrant by Wage Income**

Odds Ratios of Being a Healthcare Internal Migrant by Occupation Group

Odds Ratio of Being Internal Migrant by Healthcare Occupation Group by Year

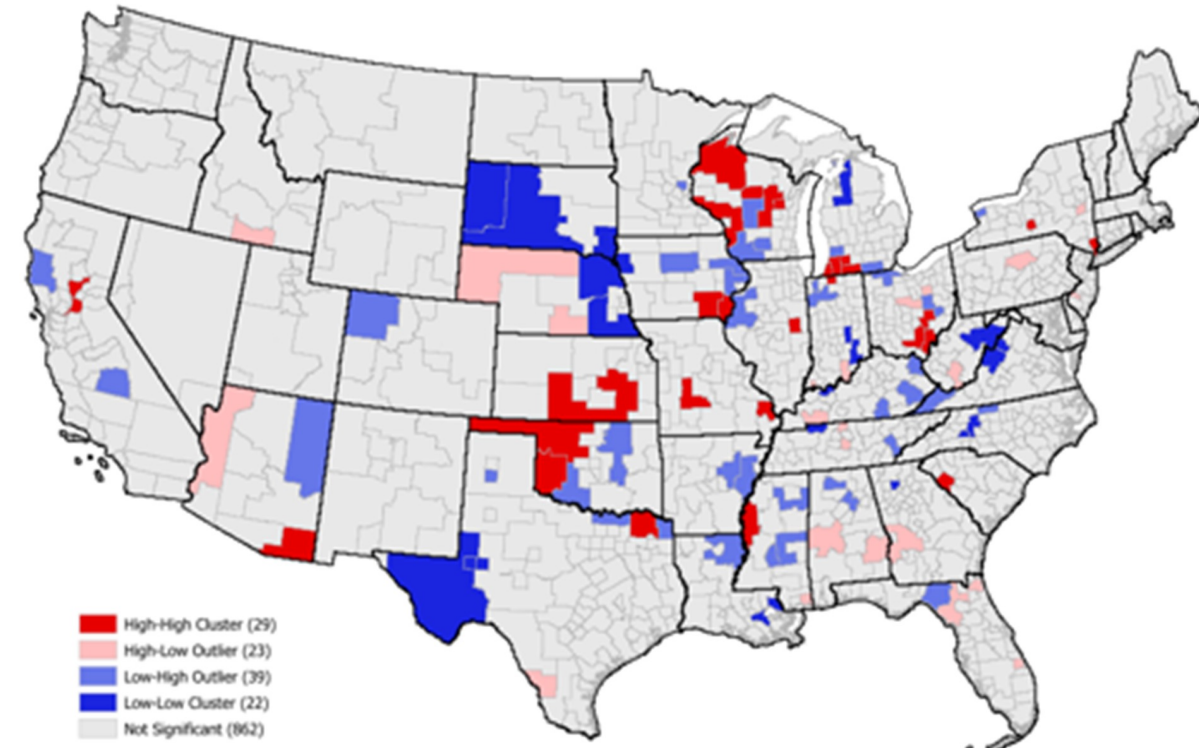# Spatial Distribution (LISA) of Healthcare Occupational Groups as Internal Migrants

LISA - Healthcare Highly Trained Practitioner Internal Migrants 2019

High-High Cluster (53)
High-Low Outlier (15)
Low-High Outlier (23)
Low-Low Cluster (102)
Not Significant (782)

LISA - Healthcare Support Internal Migrants 2019

High-High Cluster (29)
High-Low Outlier (23)
Low-High Outlier (39)
Low-Low Cluster (22)
Not Significant (862)

Total Healthcare Workforce as Internal Migrants by MIGPUMAs

Healthcare Workforce As Internal Migrants 2005

US_state (48)
0 - 1000 (809)
1001 - 3000 (179)
3001 - 5000 (20)
5001 - 7000 (3)
7001 - 9000 (4)
9001 - 11000 (0)

Healthcare Workforce As Internal Migrants 2019

US_state (48)
0 - 1000 (699)
1001 - 3000 (219)
3001 - 5000 (37)
5001 - 7000 (10)
7001 - 9000 (9)
9001 - 11000 (1)
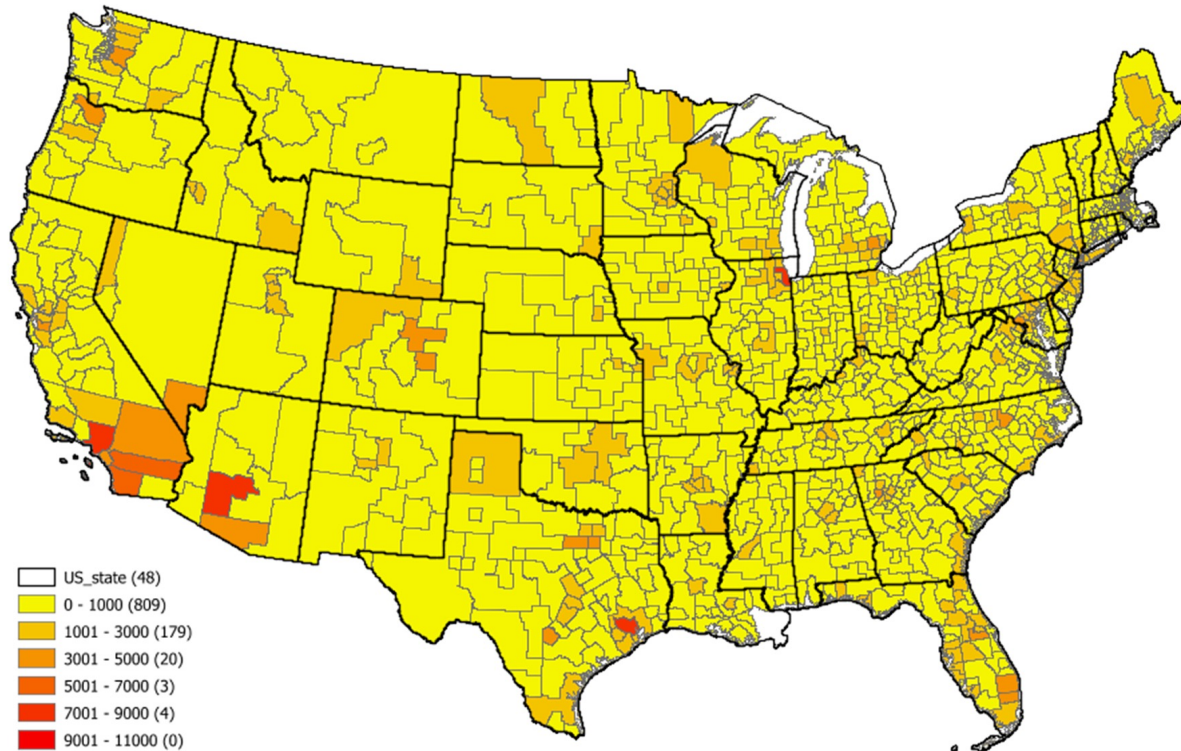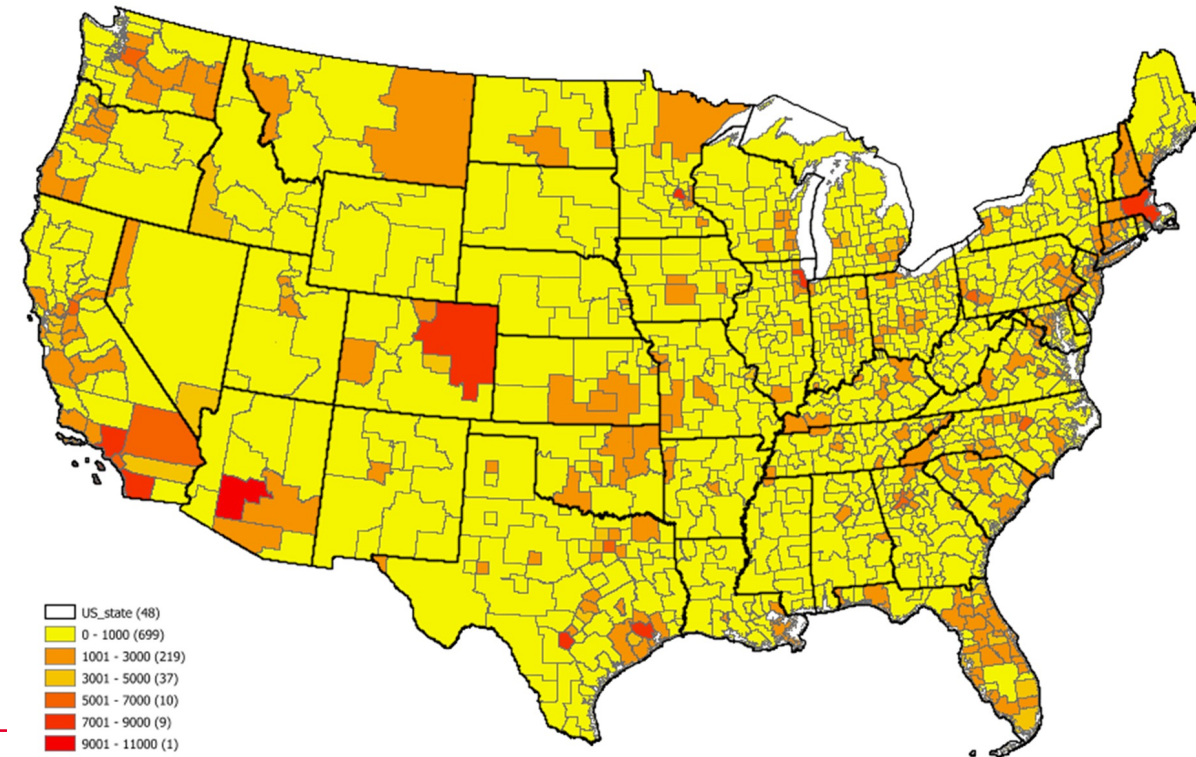
Summary of Results

- Being a healthcare worker makes one more likely to migrate across MIGPUMAs than those in other major occupational groups, except for the military

- The higher along the occupation ladder the healthcare workers are, the more likely they are to be internal migrants

- Individuals who are African American, female, and/or have children in the household have lower internal migration propensities.

Summary of Results

- Spatial hotspots (high-high clusters) for healthcare worker migration have remained consistently in California, Arizona, Texas, and Florida. The low-migration destinations are more concentrated in some Southern states such as Louisiana, Mississippi, and Arkansas

- Highly trained healthcare practitioners have consistently concentrated in California and Arizona with Washington, Colorado, New Hampshire, and Massachusetts emerging as hotspots in recent years. Cold spots for highly trained healthcare workers are concentrated in Eastern United States.

- Migration destinations for general healthcare practitioners tend to cluster in California, while the cold spots are increasingly appearing in Illinois, Indiana, Missouri, Arkansas, Tennessee, Louisiana, and Texas.

- The migration hotspots for healthcare technicians display a generally southward and eastward drift, while the cold spots are becoming more scattered geographically. Healthcare support workers share similar internal migration patterns as highly trained healthcare practitioners

Final Considerations

- ✓ We find healthcare workers are more likely to be internal migrants than those in other occupations. There are noticeable drops in their migration likelihood during the Great Recession and in times of intensified instability and uncertainty in the healthcare industry.

- ✓ There is notable heterogeneity in their migration patterns based on healthcare occupational stratification. Highly trained healthcare professionals are more likely to migrate than those employed in lower job groups. More geographic locations are becoming hotspots for healthcare worker migration over time, whereas the cold spots are becoming more concentrated.

- ✓ Understanding where healthcare workers are going, who are moving, and what factors may be associated with their migration can help policy makers and healthcare industry stakeholders better address obstacles that prevent healthcare workforce mobility and design better policies and programs to attract needed healthcare talent and meet community healthcare needs.

THANK YOU