

Introduction	What are the general trends in the workfor..	How healthy is the overall U.S. populatio..	Can we estimate high Health Provider Short..	Conclusions & Recommendations	References
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The Data Behind the U.S. Healthcare Worker Shortage and Ways to Improve It

PROBLEM:

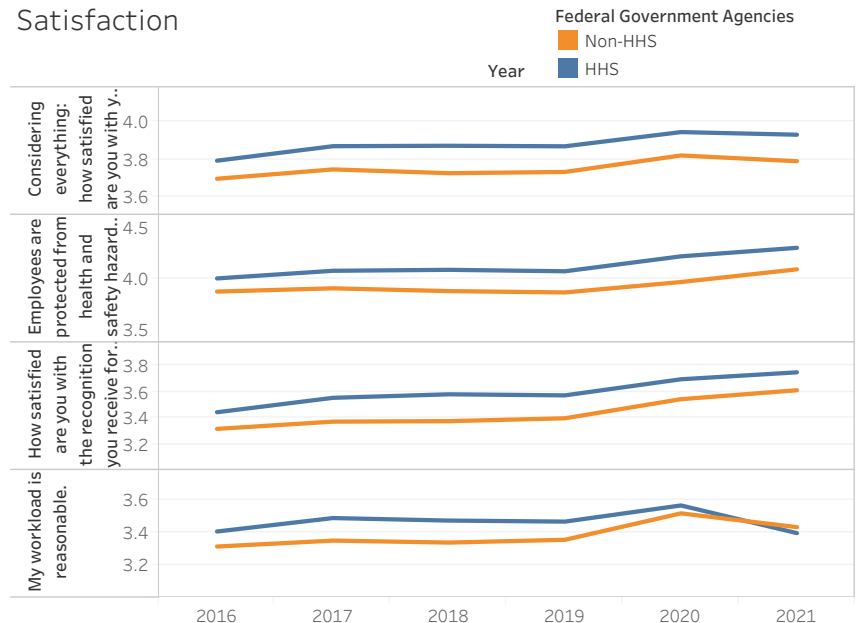
The U.S. Physician shortage will continue over the next 10 years. The American Association of Medicine identified a two-fold problem:

1. Physician burnout, early retirement, and lack of work-life balance. It appears that physicians are seeking employment opportunities elsewhere, not in patient-facing healthcare.
2. Increased need from a growing and aging population, particularly in rural areas.

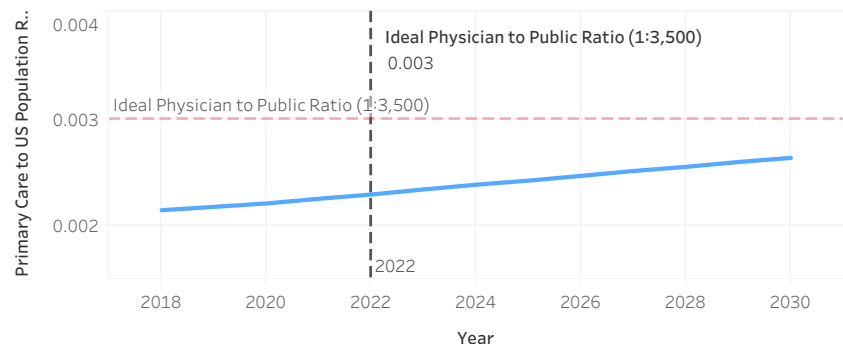
Furthermore, it appears that the critical and severe health conditions faced by U.S. population are coupled with poverty. Individuals with inadequate access to proper healthcare tend to be of most risk for chronic diseases.

Thus, we built a model to estimate the areas in the country most posed to a high Health Provider Shortage Area (HPSA) score, utilizing key data drivers like healthcare delivery segments, population counts, poverty percentages, etc. We defined a "high" HPSA score to be greater than equal to 18. HPSA scores range from 2 - 26, where higher scores indicate greater shortage of healthcare.

HHS and Non-HHS Opinions on Workplace Culture and Satisfaction



Physician to U.S. Population Ratio



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Introduction

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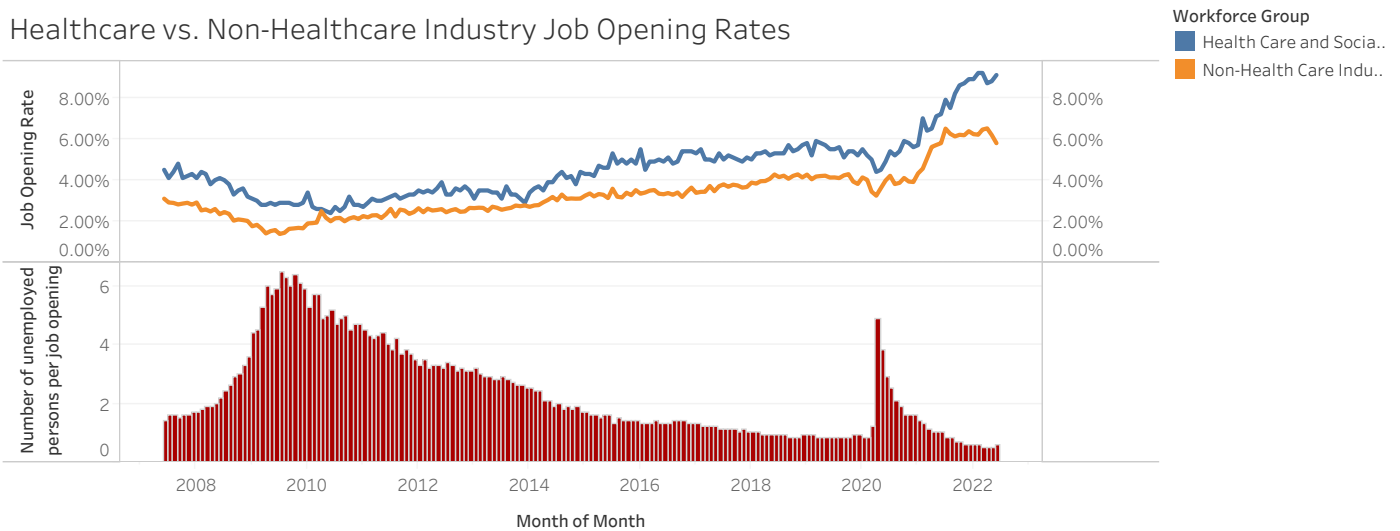
How healthy is the overall U.S. populatio..

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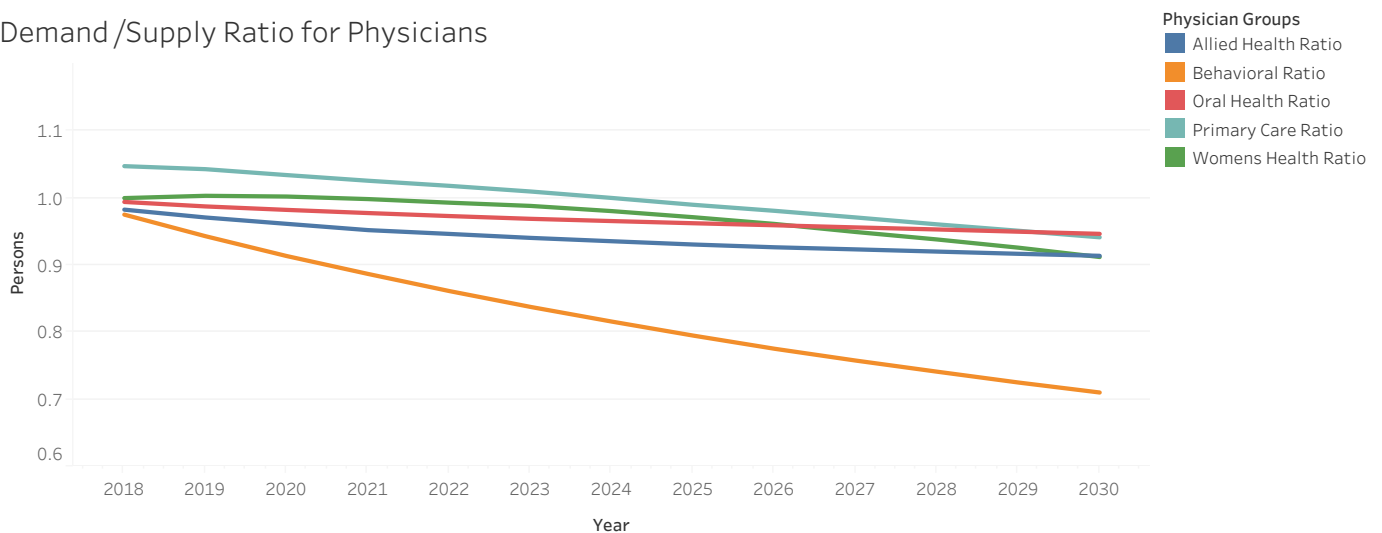
Conclusions & Recommendations

References

Healthcare vs. Non-Healthcare Industry Job Opening Rates



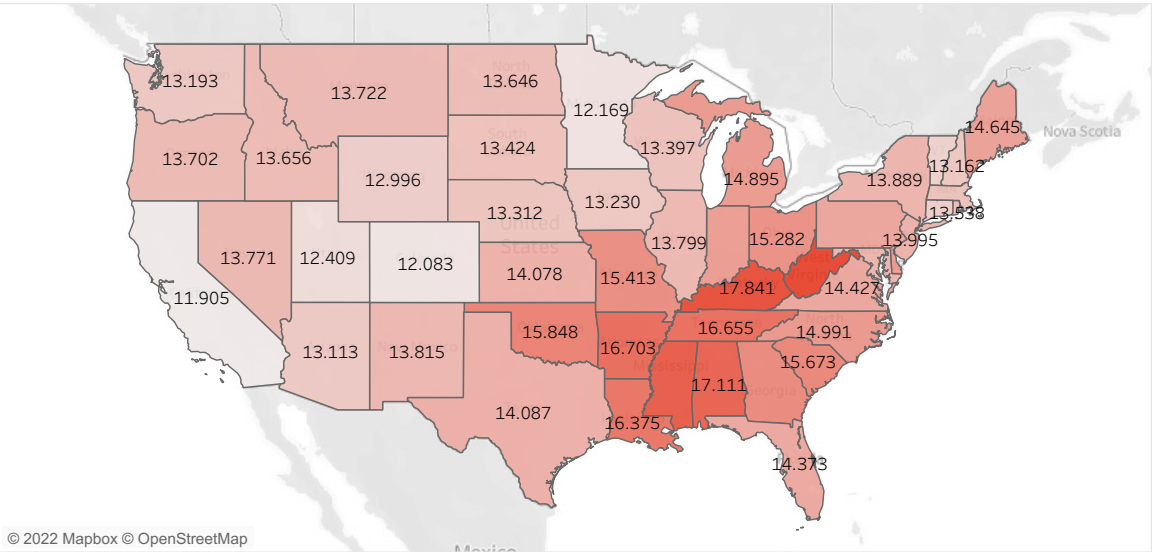
Demand /Supply Ratio for Physicians



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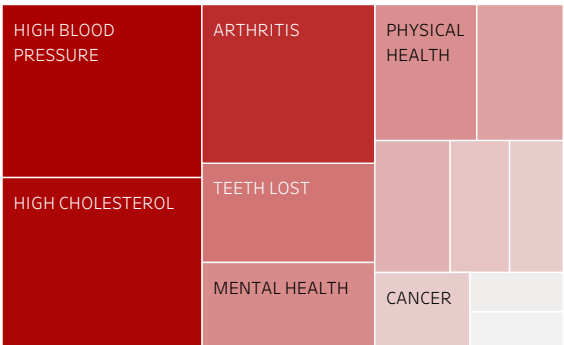
Introduction	What are the general trends in the workfor..	How healthy is the overall U.S. populatio..	Can we estimate high Health Provider Short..	Conclusions & Recommendations	References
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Average Population Suffering from Health Conditions

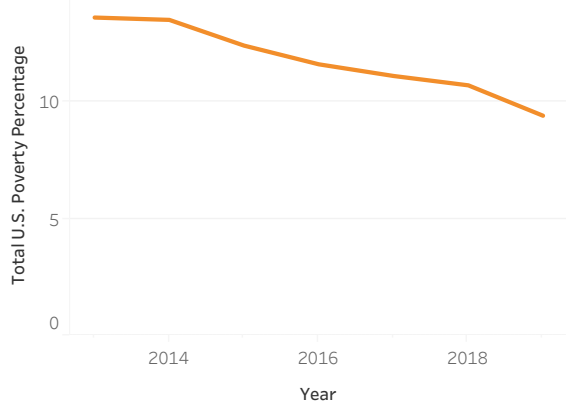


- Condition
- ☒ ARTHRITIS
 - ☒ ASTHMA
 - ☒ CANCER
 - ☒ CHRONIC KIDNEY DIS..
 - ☒ CHRONIC OBSTRUCTI..
 - ☒ CORONARY HEART DI..
 - ☒ DIABETES
 - ☒ HIGH BLOOD PRESSU..
 - ☒ HIGH CHOLESTEROL
 - ☒ MENTAL HEALTH
 - ☒ PHYSICAL HEALTH
 - ☒ STROKE
 - ☒ TEETH LOST

Health Conditions by Prevalence



Poverty Rate (2013 - 2021)



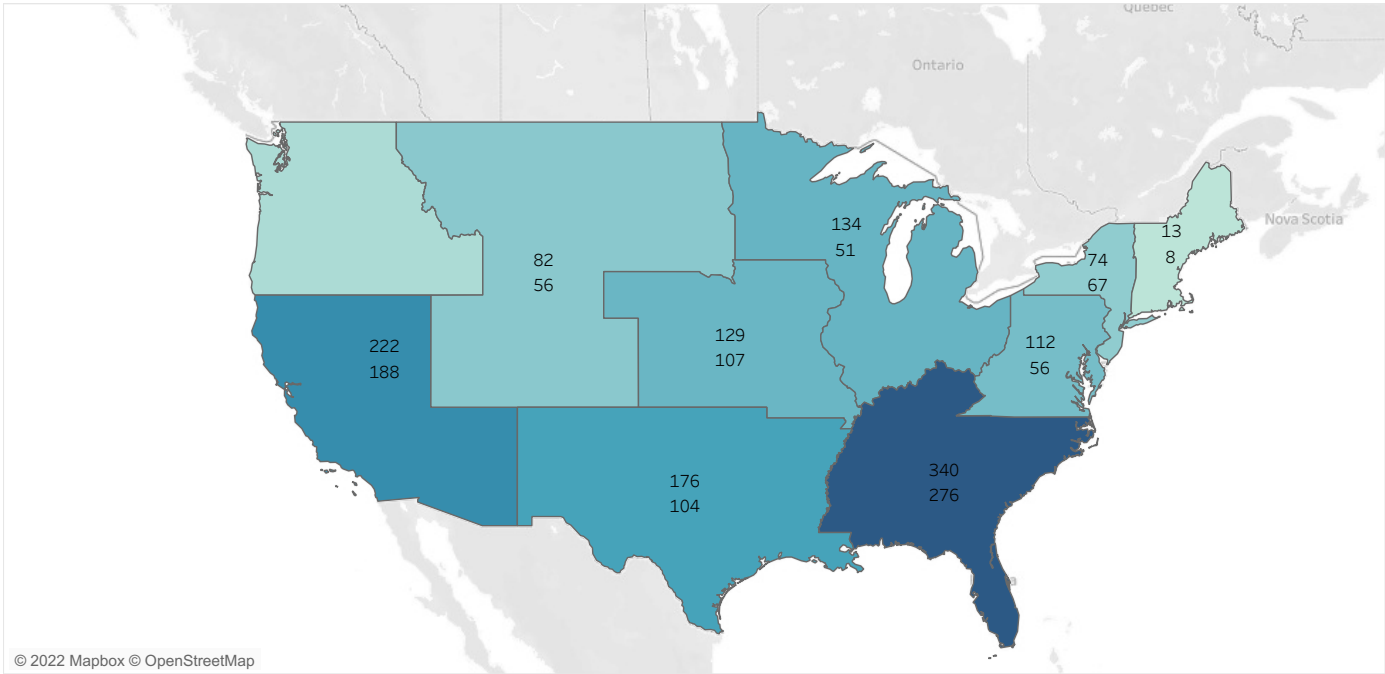
Note:

Click on State or Point in Trend Line to see further Level of Detail

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Introduction	What are the general trends in the workfor..	How healthy is the overall U.S. populatio..	Can we estimate high Health Provider Short..	Conclusions & Recommendations	References
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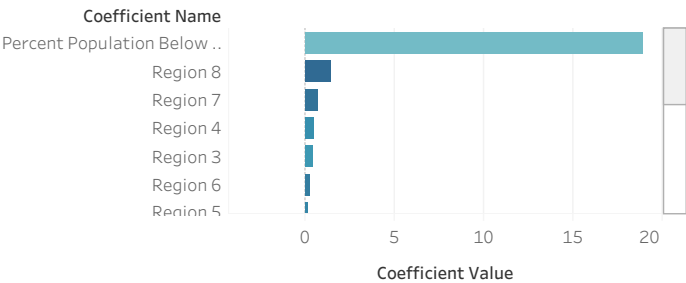
Count of Actual and Predicted High HPSA Scores across Regions



Normalized Confusion Matrix

Actual	Prediction	
	High HPSA Score	Low HPSA Score
High HPSA Score	0.50	0.50
Low HPSA Score	0.07	0.93

Model Coefficient Values



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Introduction	What are the general trends in the workfor..	How healthy is the overall U.S. populatio..	Can we estimate high Health Provider Short..	Conclusions & Recommendations	References
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Conclusions

Monitoring Healthcare Sector Workforce trends and shortages is critical in identifying opportunities to address those shortages. Having an adequate number of patient-facing physicians available to meet the needs of the population is a vital component to preserving population health. This is especially important given the increase in burden of chronic disease, and more recently, infectious disease across the nation. The U.S. is currently facing a healthcare worker shortage that is projected to continue for over 10 years; this negatively impacts both primary care and specialty care. While the cause of this shortage is multi-faceted, two major contributors of this crisis have been identified in our data:

- (1) A shortage of healthcare worker personnel
- (2) A shortage of healthcare personnel in low socioeconomic status areas.

Recommendations

To address the shortage of healthcare personnel overall, the American Medical Association (AMA) has identified that healthcare worker burnout, early retirement, and a reduction in health care worker working hours as reasons why this shortage exists. Recommendations to mitigate this crisis include:

- (1) Ensuring employees feel appreciated for their work
- (2) Creating policies that allow for a healthy work-life balance for physicians
- (3) Using technological advances like telehealth and other technologies aimed at improving efficiency to reduce workload on physicians

To address the shortage of personnel in low socioeconomic status areas, the AMA identified factors including higher incomes for physicians and residents in urban areas that could lead to residents taking jobs away from higher need areas to enable them to pay their student loans. Recommendations to combat this shortage include:

- (1) Student loan interest free periods and payment pauses for residents as they establish themselves in an area to practice in, proposed by bill S.3658/H.R. 4122
- (2) Increasing the number of Medicaid funded residency programs to facilitate the continued training of fellows and residents in areas of lower socioeconomic status, proposed by bill S.834/H.R. 2256
- (3) Ensuring an adequate U.S. physician workforce is not only dependent on whether there are enough people who want to serve their communities as physicians. This shortage is due to external factors that can be mitigated with collaboration from healthcare facilities, the broader medical community, and by enacting policies that ensure physicians have the resources they need to provide critical care.

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Introduction	What are the general trends in the workfor..	How healthy is the overall U.S. populatio..	Can we estimate high Health Provider Short..	Conclusions & Recommendations	References
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References

Andis Robeznieks Senior News Writer. "How Congress Can Save Resident Physicians \$12,000 a Year." *American Medical Association*, 8 Mar. 2022, <https://www.ama-assn.org/medical-residents/medical-residency-personal-finance/how-congress-can-save-resident-physicians>.

Andis Robeznieks Senior News Writer. "Doctor Shortages Are Here-and They'll Get Worse If We Don't Act Fast." *American Medical Association*, 13 Apr. 2022, <https://www.ama-assn.org/practice-management/sustainability/doctor-shortages-are-here-and-they-ll-get-worse-if-we-don-t-act>.

Additional Data Sources

U.S Population Projects. Congressional Budget Office. The Demographic Outlook: 2022-2052. Population, by Age Group

Other Report Formats

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