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Background

- Maternity care deserts are counties in which access to maternal health care services is limited or absent, through lack of services or barriers to access care (March of Dimes).
- In Virginia, 32.3% of counties are maternity care deserts and 14.6% of counties have low or moderate access affecting 373,686 women.
- Access to maternity care has been linked to high risk pregnancies and low birth weight.

Objectives

- To explore low birth weight rate in Virginia using disaggregated data by level of access to maternity care, including drive time and sociodemographic factors.

Method

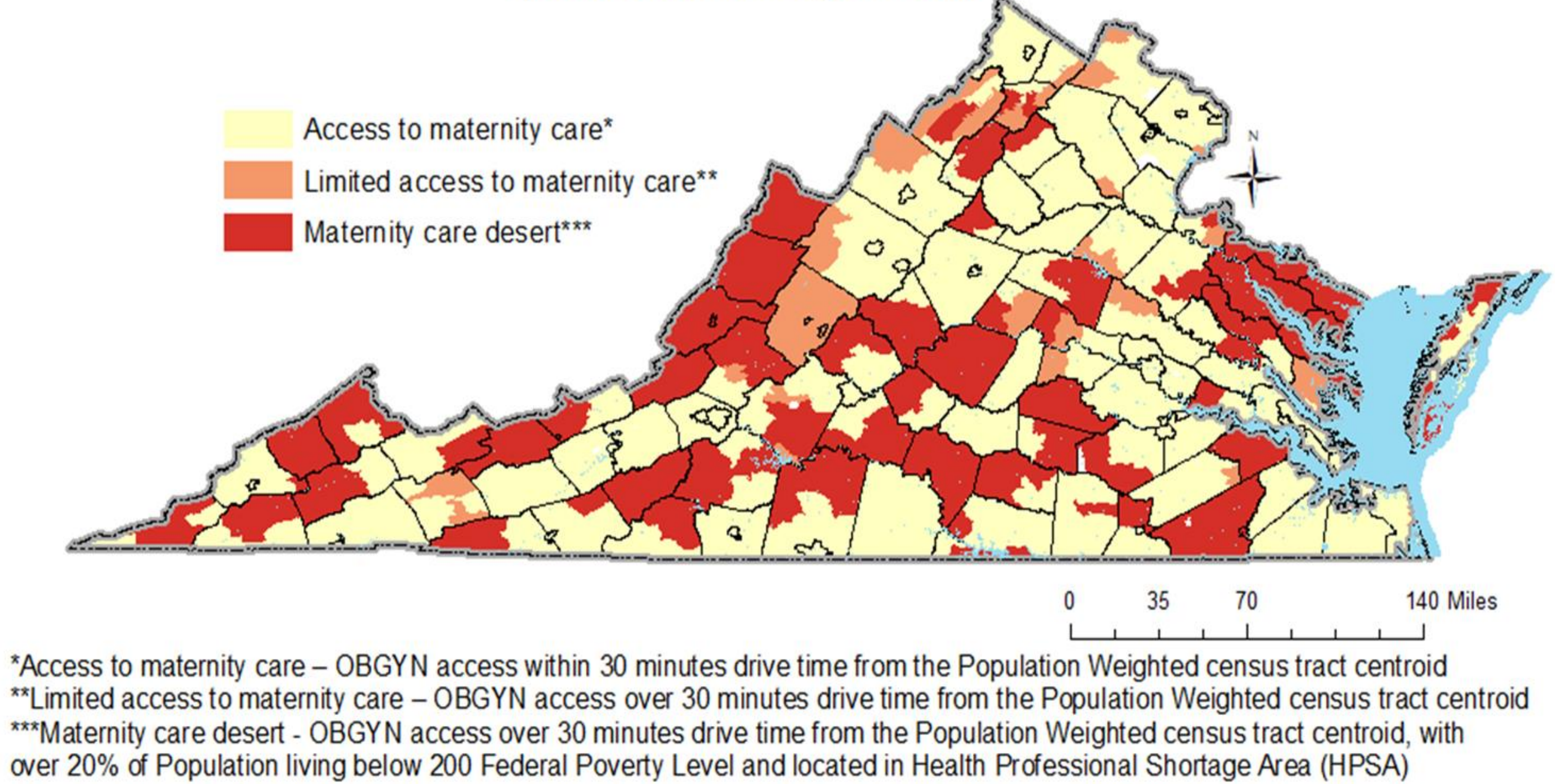
- *Maternity care deserts - defined as areas where obstetrics and gynecology services access was over 30 minutes’ drive time from the population weighted census tract centroid, with over 20% population in particular census tracts living below the 200% federal poverty level, and located in the Health Professional Shortage Areas (HPSA) in the census tract.*
- Data- Vital Statistics Birth certificate data, ACS, Census data on Poverty, HPSA-Designations as surrogate variable for providers.
- Geocoding of all hospitals, GIS Network Analysis used to measure distance from the center of the census tract with a radius of 30 minutes drive.
- Predictive analysis, Stepwise multiple regression performed using SPSS.

Health Opportunity Index

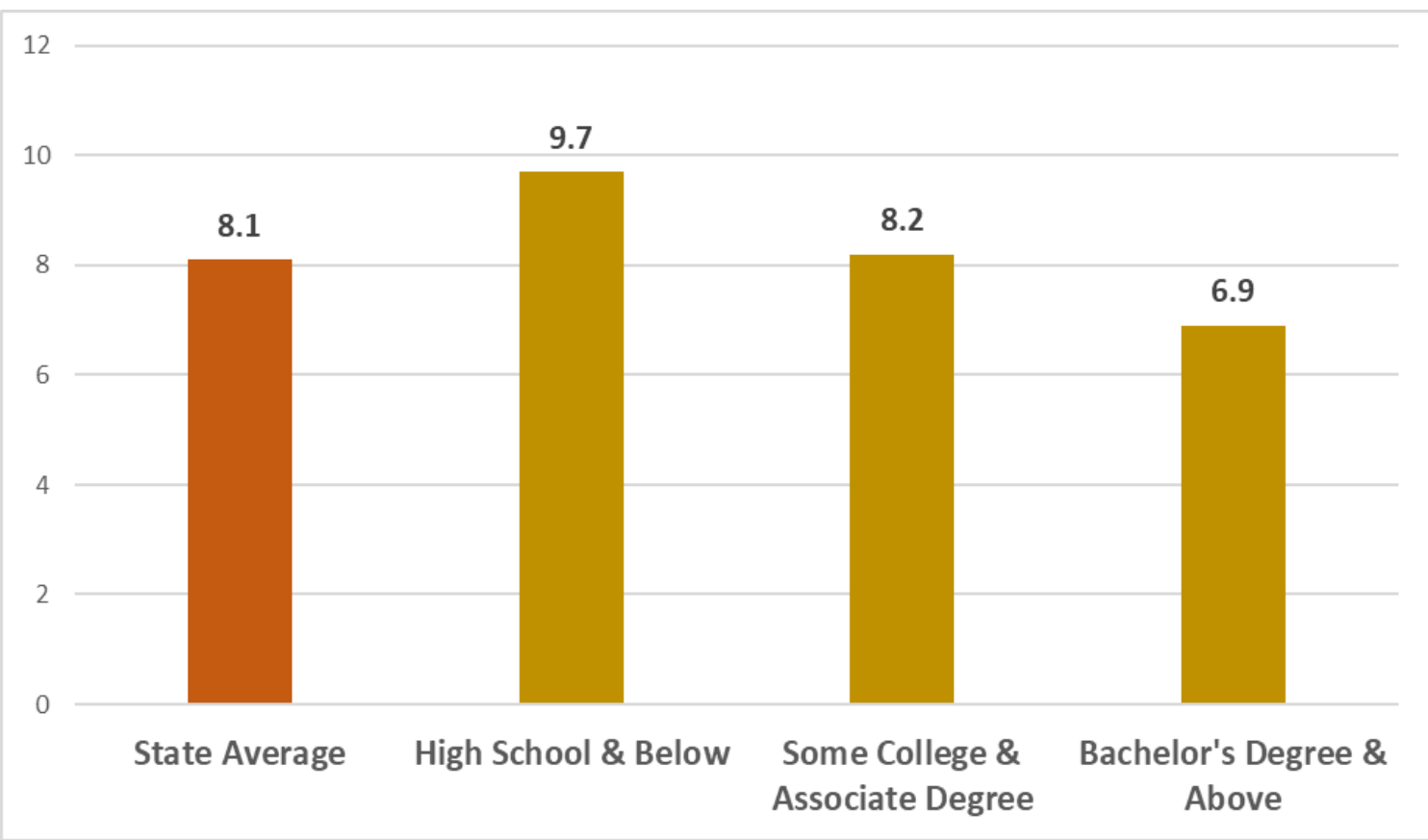
- The HOI is a composite measure of the Social Determinants of Health (the social, economic, educational, demographic, and environmental factors) developed by the Virginia Department of Health to identify vulnerable populations..
- HOI is comprised of 13 indicators.
- The HOI was further aggregated into five quintiles at the county level.

Results

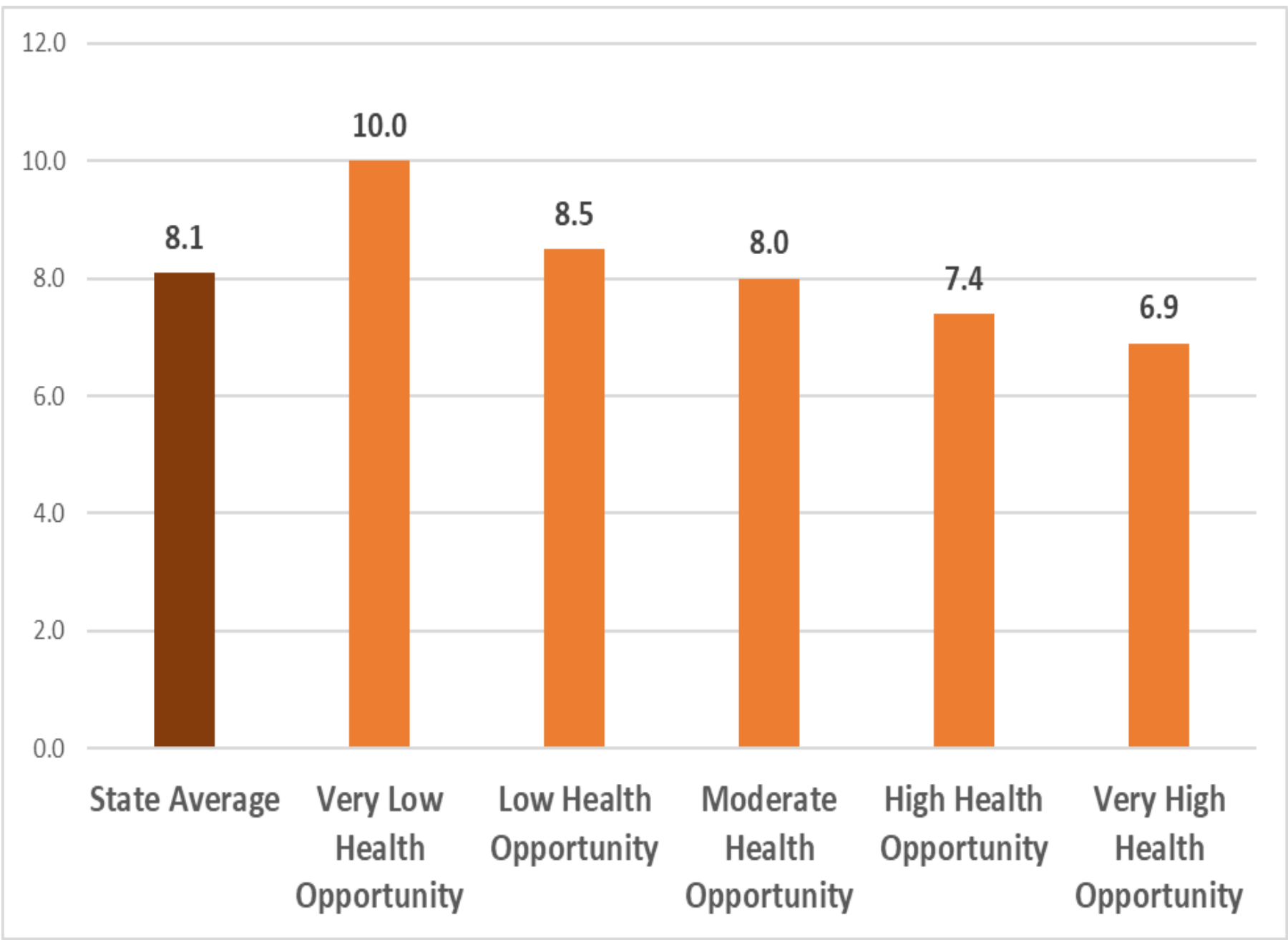
Virginia
Level of Access to Maternity Care
(Controlled for Edge-Effect)



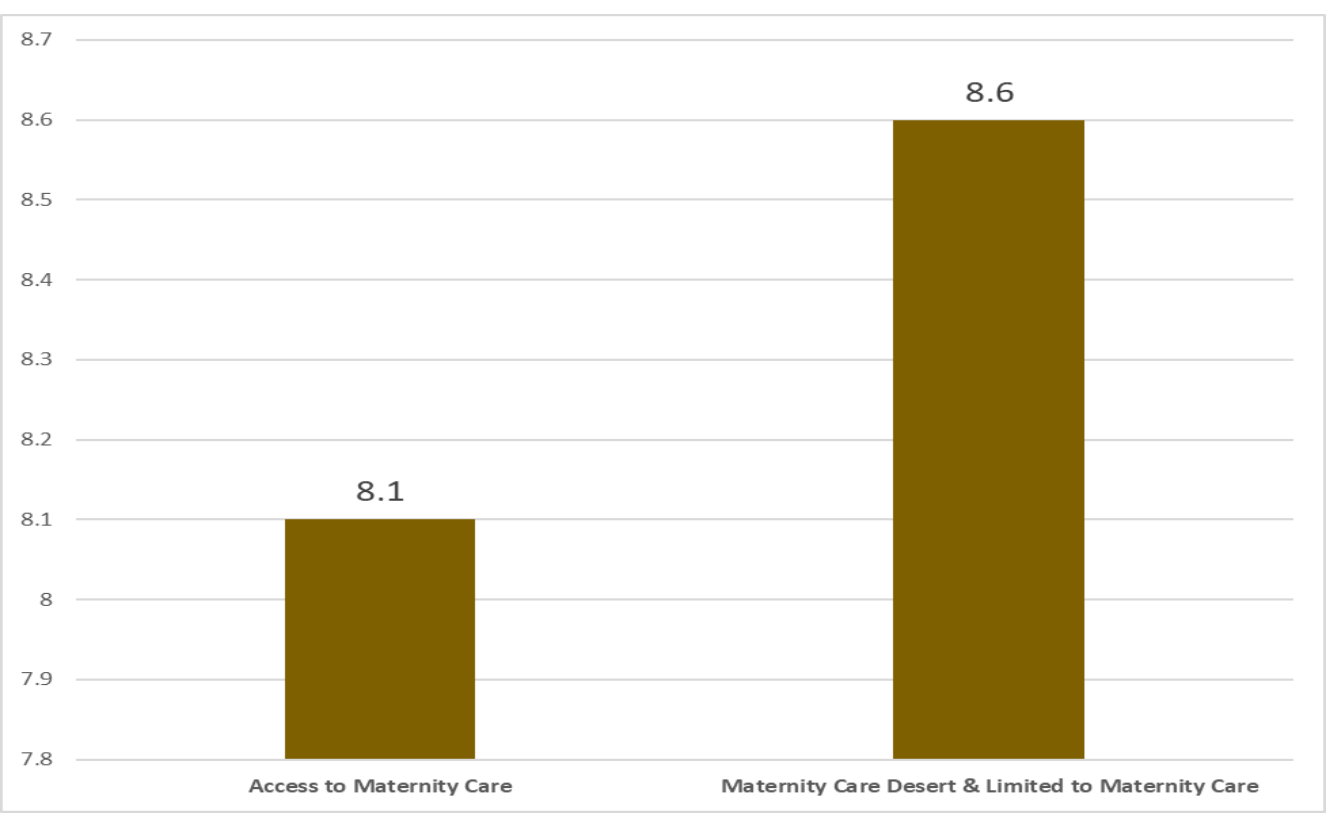
Low Birth Weight by Mother Education



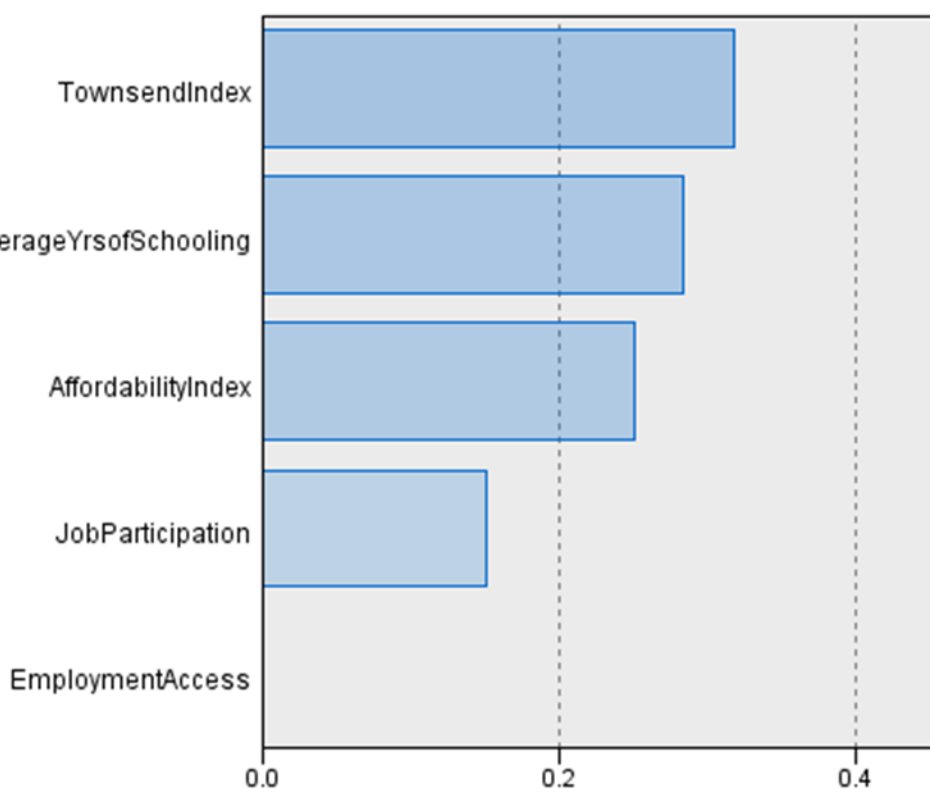
Low Birth Weight by HOI Quintiles



Percent Low Birth Weight (<2,500g) by Level of Access to Maternity Care



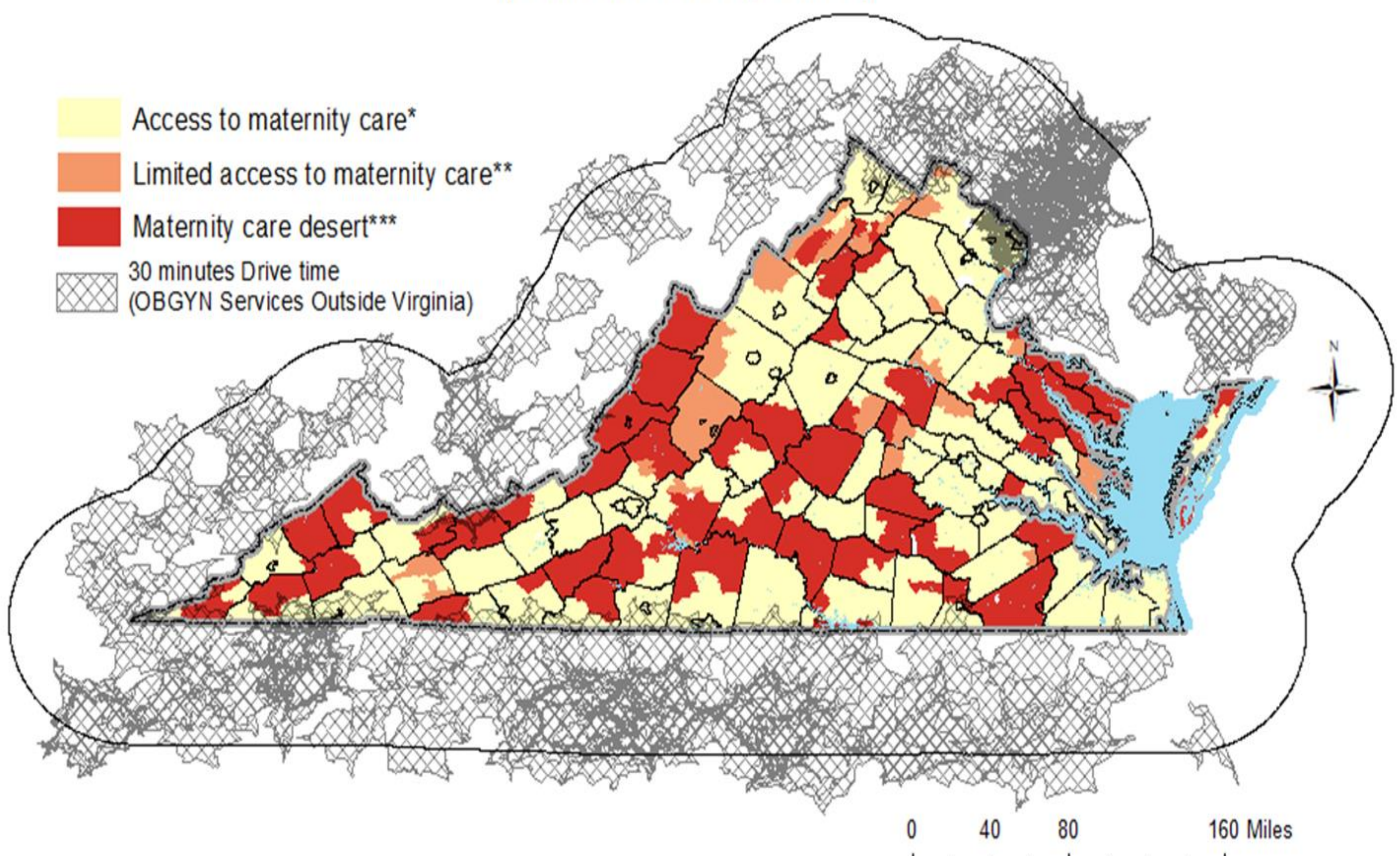
Stepwise Regression – LBW and HOI



Coefficients			
	Unstandardized Coefficients	Standardized Coefficients	Sig.
(Constant)	19.48		<0.05
Affordability Index	-4.533	-0.17	<0.05
TownsendIndex	-4.831	-0.195	<0.05
Education	-7.473	-0.161	<0.05
Employment Access	15.402	0.174	<0.05
Job Participation	-3.953	-0.121	<0.05

Results

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Conclusion

- Findings indicate that low birth weight was significantly higher in areas of maternal deserts, low poverty level and areas with low education, affordability index.
- Targeting high priority areas include incentivizing providers to work in underserved areas, and future research on infant mortality rate.
- Multilevel approach that includes social and economic interventions will greatly impact the health disparities in maternal birth outcomes..
- Using the VA HOI helps to establish links between low birth weight among women who share similar economic, social, and geographical characteristics.

Select References

Maternity care deserts across the US (2020). March of Dimes Report. <https://www.marchofdimes.org/research/maternity-care-deserts-report.aspx>
Shalowitz, D. I., Vinograd, A. M., & Giuntoli II, R. L. (2015). Geographic access to gynecologic cancer care in the United States. *Gynecologic oncology*, 138(1), 115-120.
Virginia Department of Health, Office of Health Equity (2019). The Health Opportunity Index (HOI) <https://www.vdh.virginia.gov/omhhe/hoi/>