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Introduction

In the current literature, the association between social determinants of health (SDH) and head & neck-nervous system cancer (HNNsC) is limited by the narrow scope of social determinants assessed and the broad classifications of HNNsC. In this study, the Center for Disease Control-Social Vulnerability Index (SVI) tool was utilized to assess both the individual and collective impact of the four social determinant themes on various HNNsC in US adults and the association of these themes to the care and prognostic outcomes among HNNsC patients.

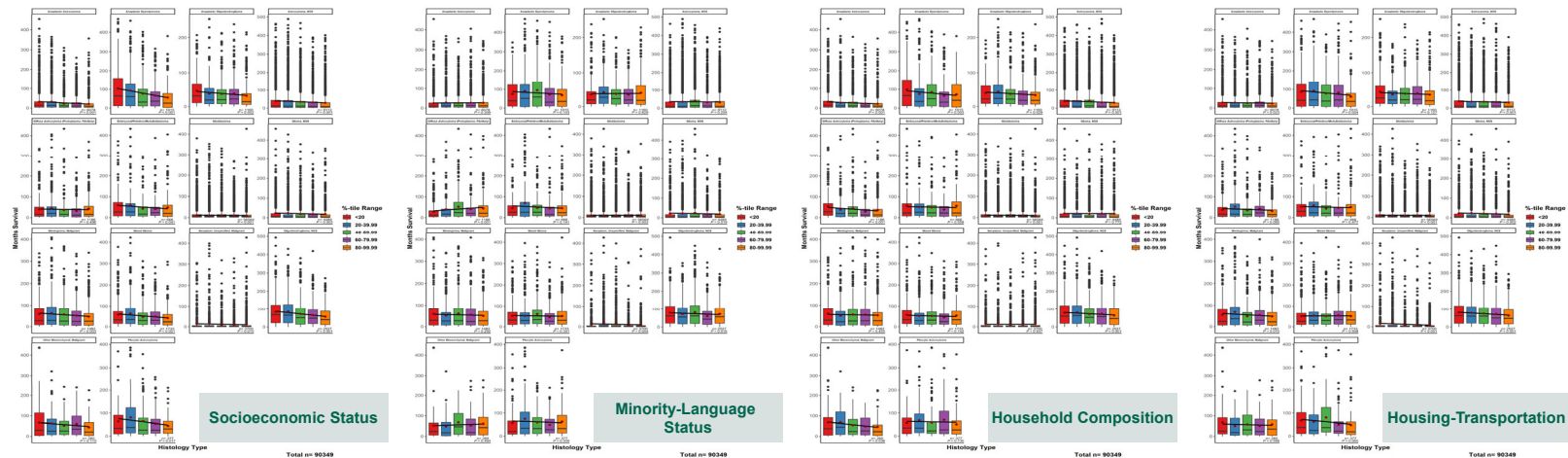
Methods

This retrospective cohort study utilized the SEER database to evaluate 116,373 adult patients from 1975-2017 who presented with various types of HNNsC. Patients were assigned SVI scores based on county-of-residence at the time of diagnosis, encompassing total SVI score and 4 sub-scores of socioeconomic status, minority-language status, household composition, and housing-transportation. Using these scores, univariate linear regressions were used to assess patient care (months of follow-up) and prognosis (months of survival).

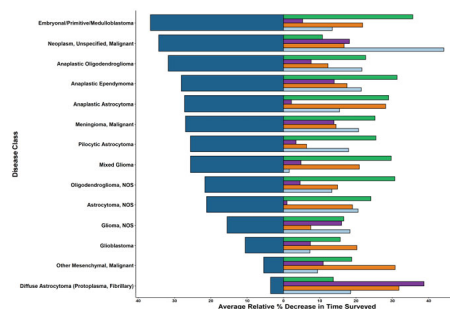
Discussion

As the total SVI score increased, a significant decrease in months of follow-up was observed for many HNNsC tumors ($p < 0.001$), ranging from 3.55-36.6% decreases in mean lengths of follow-up when comparing the lowest to highest vulnerability cohorts. Similarly, a decrease in months of survival was observed ($p < 0.001$), ranging from 6.90-45.81% decreases in the mean survival period when comparing the lowest to highest vulnerability cohorts. Increases in vulnerability within SVI sub-scores/SDH themes contributed significantly to these total-SVI trends in months of follow-up and survival, with each social determinant impacting different disease classes to varying extents.

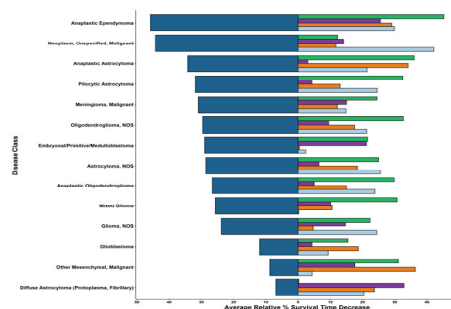
Sub-Score Box Plots



Months of Follow-Up



Months of Survival



Conclusion

The results of this study show that with increasing social vulnerability, there is a significant decrease in both the care (follow-up) and the prognosis (survival) of US adults with HNNsC and highlight which particular SDH contributes more to disparities.

Acknowledgments

This study was made possible thanks to the significant contributions of David J. Fei-Zhang.