

COVID-19 Mortality and Hospitalization Disparities Within the American Indian and Alaska Native Communities during Vaccination Uptake 2021

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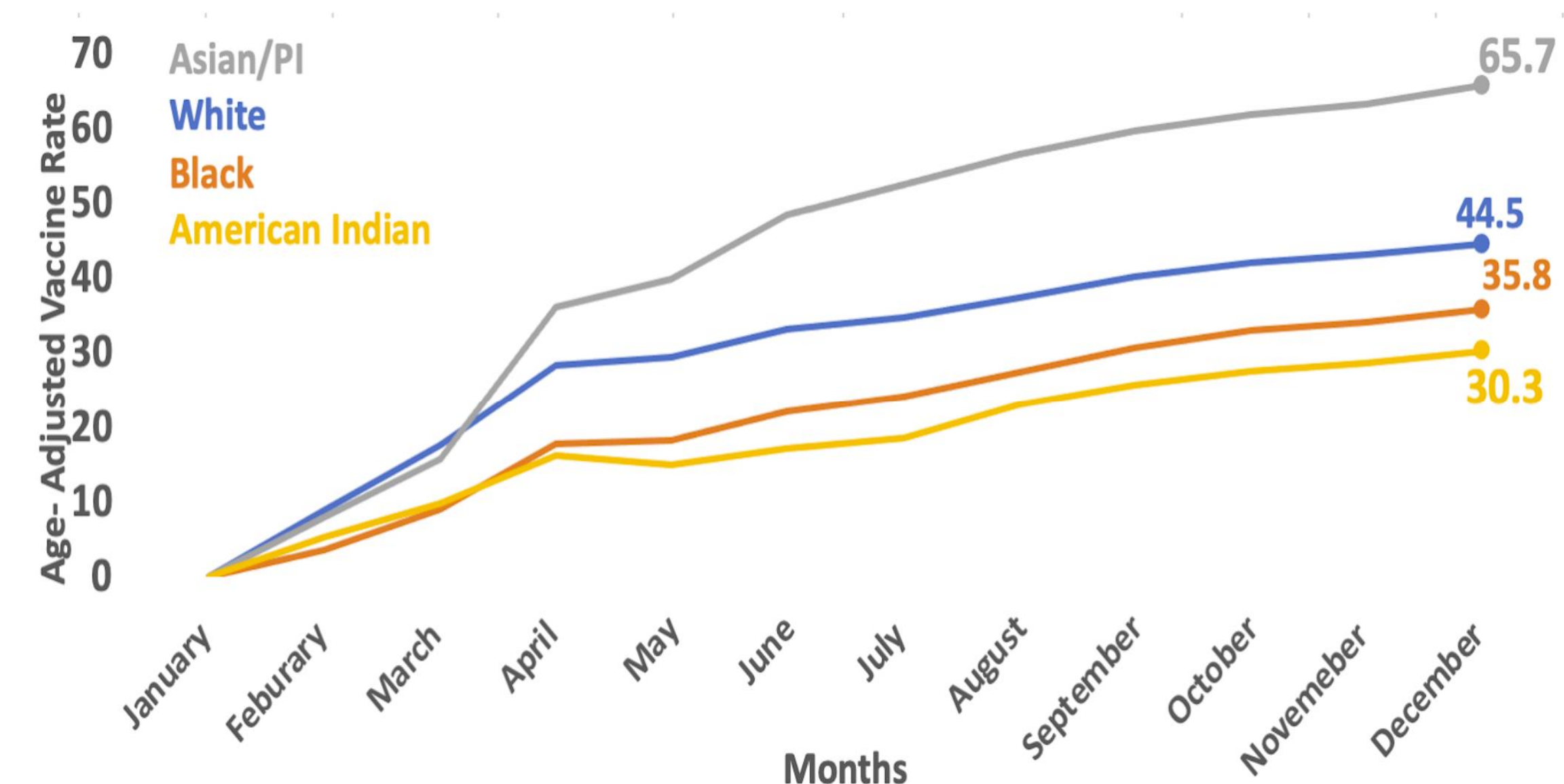
INTRODUCTION

- The COVID-19 pandemic highlighted health disparities among racial minority groups.
- Examining disparities in COVID-19 vaccination, hospitalization, and mortality rates in American Indian and Alaskan Native (AI/ AN) populations in Oklahoma can help raise awareness of racial inequities in the healthcare system.
- Prior literature found that fully vaccinated patients who visited Emergency Departments for severe COVID-19 symptoms had lower mortality rates than unvaccinated individuals. [1]

WHY IS THIS A PUBLIC HEALTH ISSUE

- Disparities among the social determinants of health such as inequities in wealth, employment, and healthcare access contributed to the disproportionate effect that COVID-19 has had among minority groups. [2]
- Discussing the disparities that minority groups face is crucial to combating the healthcare inequities and racial discrimination that deeply affect these communities.

Figure 1: 2021 COVID-19 Fully Vaccinated rates by Race in Oklahoma



MATERIALS & METHODS

Vaccination Data

Using Oklahoma State Department of Health COVID-19 data, we obtained vaccination percentages by race from January to December 2021. Excel was used for data entry and analysis. [3]

Hospitalization and Mortality Data

We obtained age-adjusted 2021 COVID-19 hospitalization and mortality rates for AI/ AN, Asian or Pacific Islander, Black or African American (Black or AA), White, and Unknown from the OK2SHARE database. Initially, the data were obtained for the entire state of Oklahoma, and then age-adjusted rates for each race were obtained for all rural and then all urban counties in Oklahoma. Rates were age-adjusted using the 2000 U.S. Standard, and races with significant suppressed numbers were removed. [4]

Figure 2: COVID-19 Monthly Mortality Rates per 100,000 in 2021

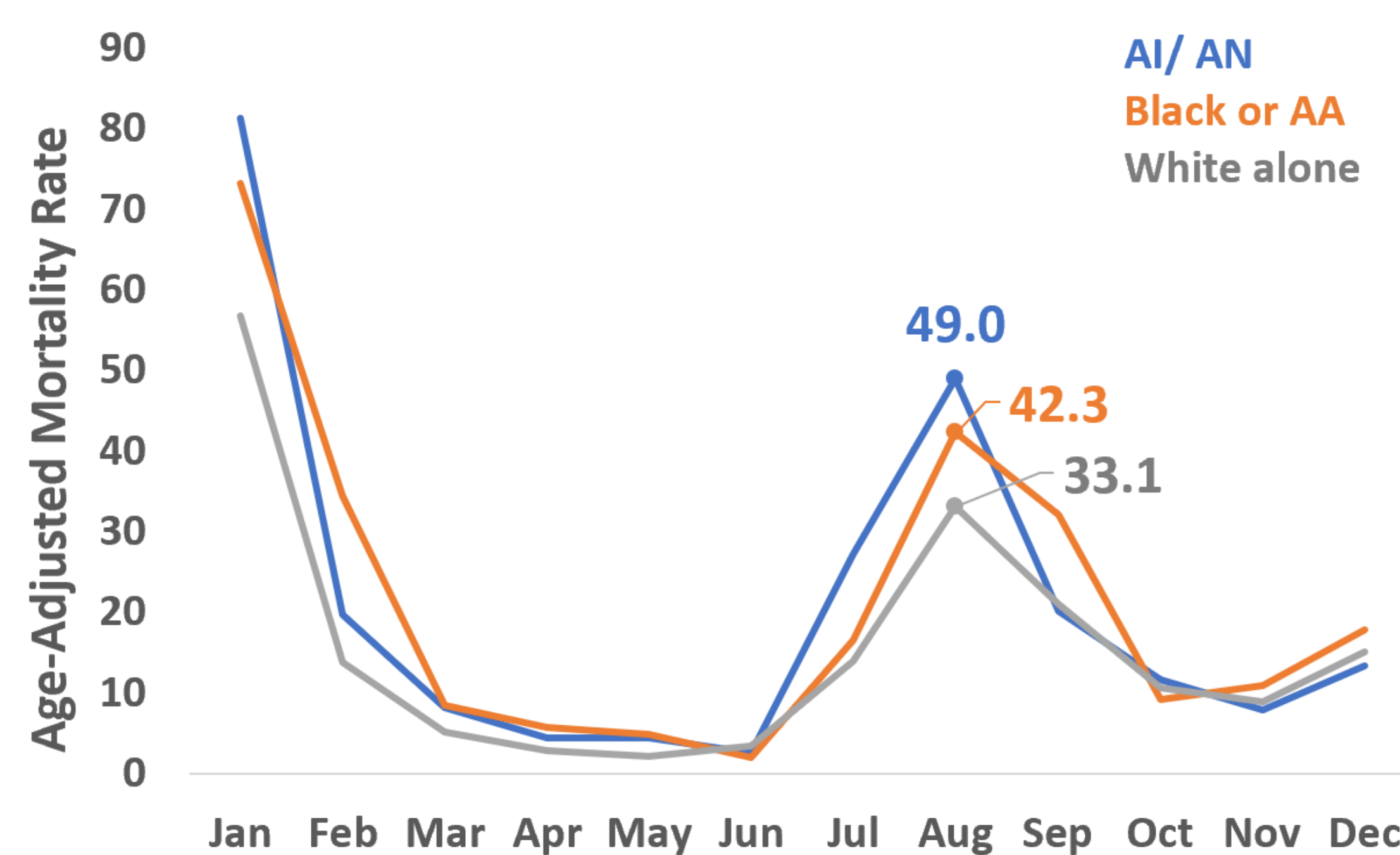
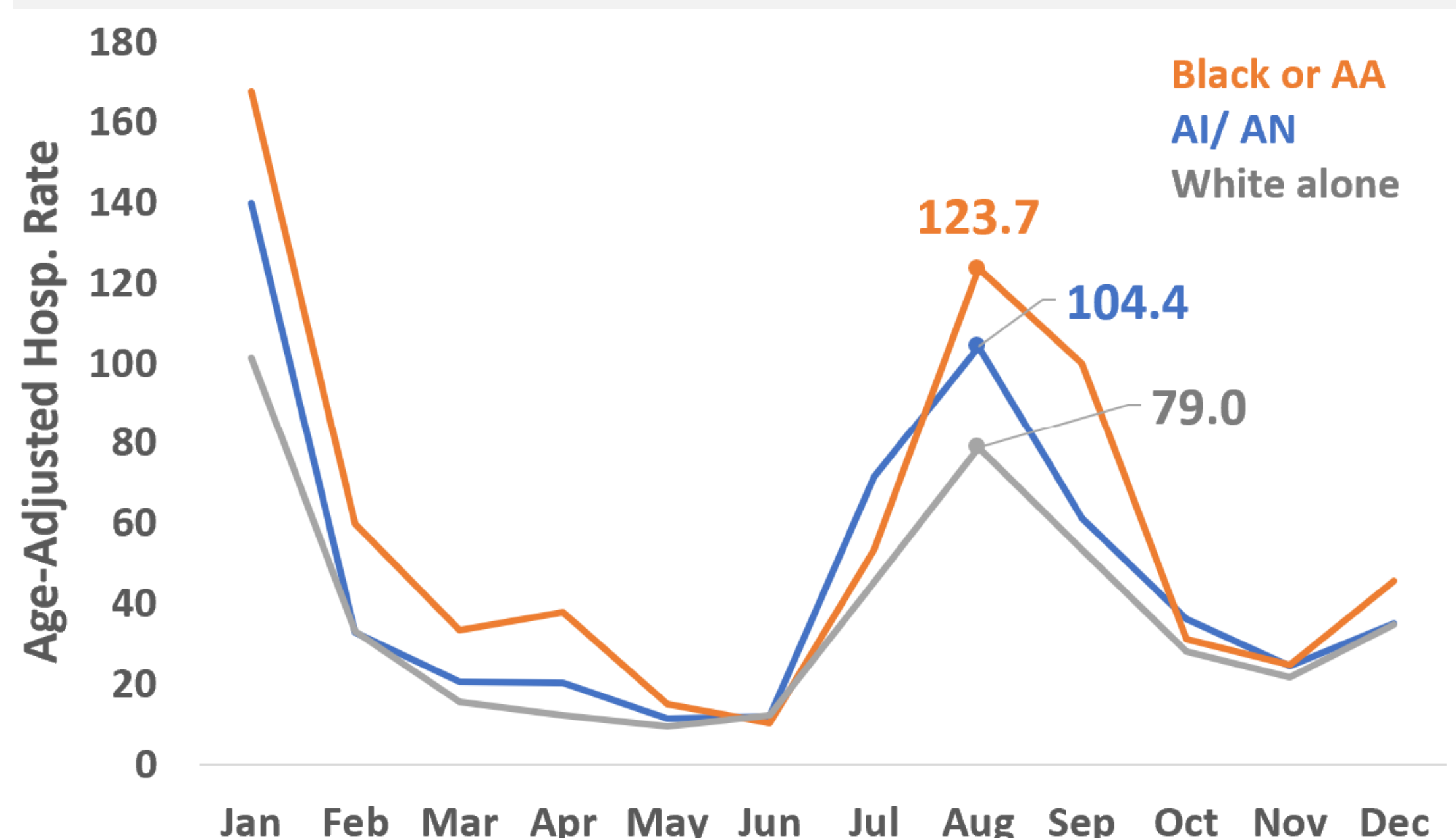


Figure 3: COVID-19 Monthly Hospitalization Rates per 100,000 in 2021



RESULTS

- In Oklahoma, the **AI/AN population had the highest COVID-19 mortality rates during peak surges** compared to Black or AA and White populations and the second highest hospitalization rates over time after the Black or AA population.
- When comparing rural and urban counties, **AI/AN communities had the highest rural mortality rate (265.4)** and the second highest urban mortality rate (231.8).
- They also had the second highest rural and urban hospitalization rates (606.8 and 530, respectively).
- AI/AN had the lowest percentage of being fully vaccinated (30.3%)** while the Asian/Pacific Islander population had the highest percentage of being fully vaccinated (65.7%).

Figure 4: Age-Adjusted COVID-19 Mortality Rates per 100,000 in 2021

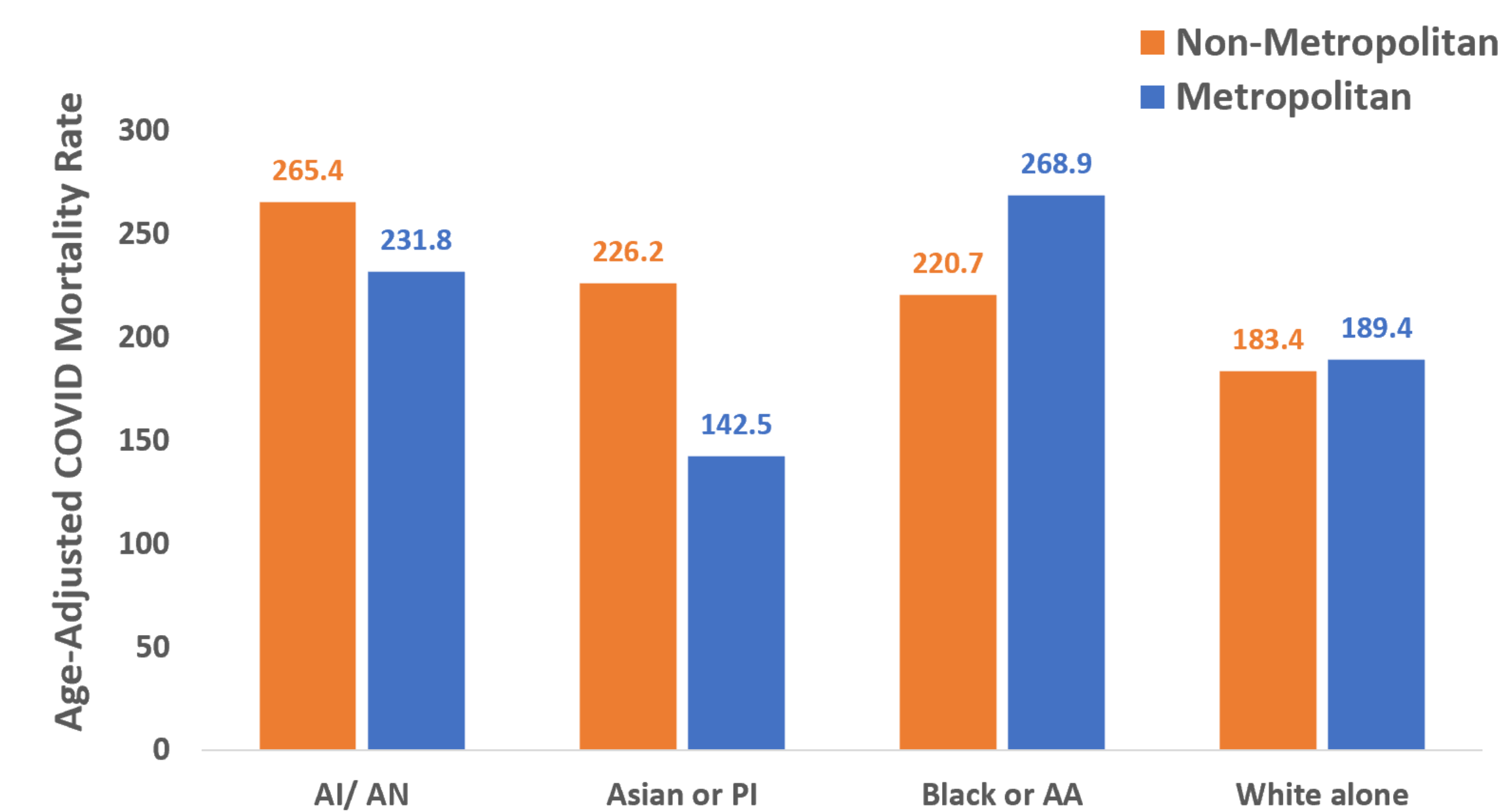
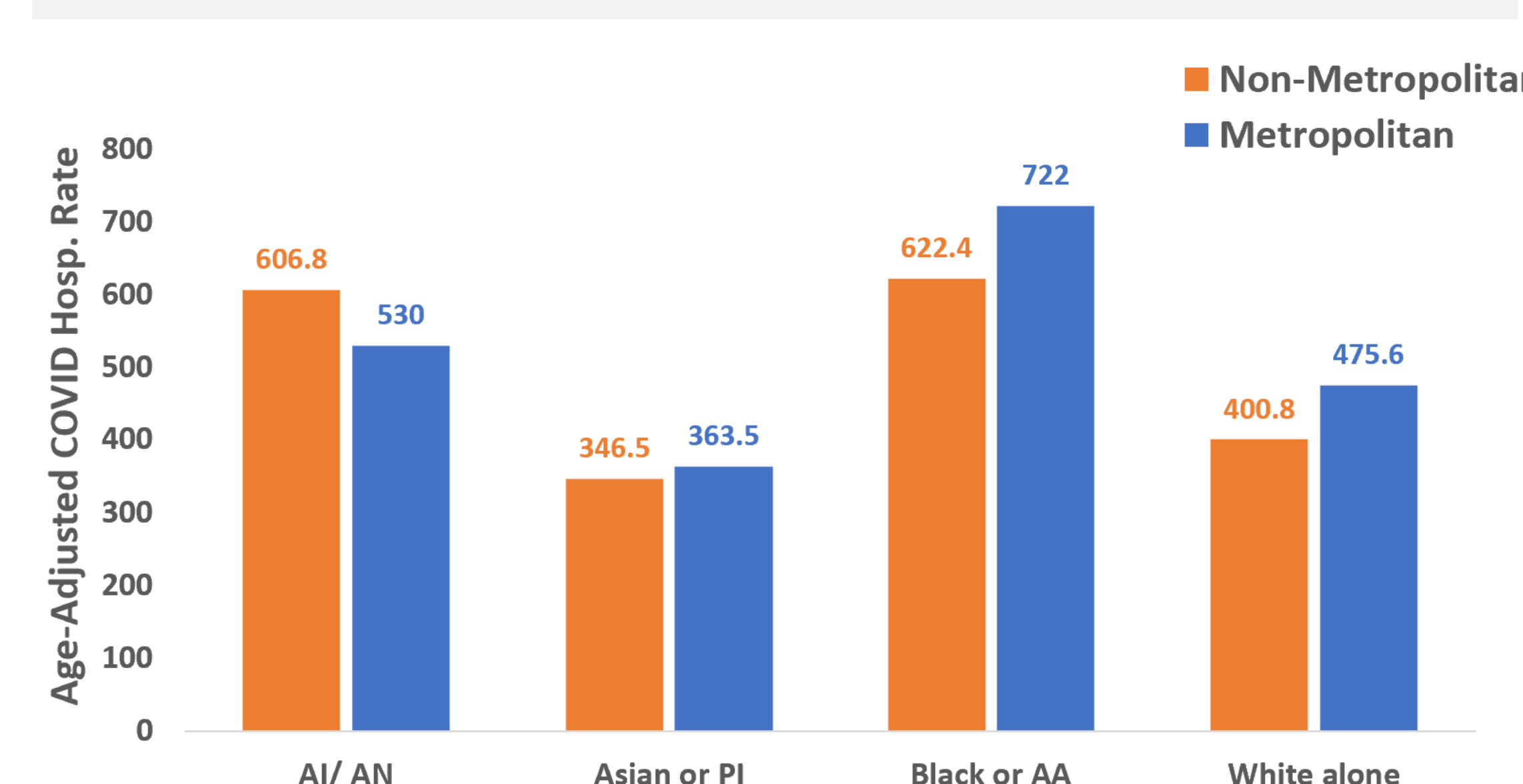


Figure 5: Age-Adjusted COVID-19 Hospitalization Rates per 100,000 in 2021



CONCLUSIONS

- AI/ AN communities in Oklahoma experienced high hospitalization and mortality rates and low vaccination rates compared to other racial groups.
- This likely suggests racial health disparities during the COVID-19 pandemic, but further research is needed to determine contributing factors and effective solutions.
- To address these disparities, public health professionals should strive to engage with vulnerable populations and provide them with the tools and resources necessary to access quality healthcare.
- Emphasis on health equity is crucial to breaking the cycle of disparities affecting vulnerable populations.
- Healthcare facilities and institutions should collaborate with tribes to improve cultural competency, aiming to prevent health disparities and to eliminate barriers to healthcare access, ensuring everyone has the opportunity to achieve their optimal health.

REFERENCES

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- [2] Tai DBG, Sia IG, Doubeni CA, Wieland ML. Disproportionate Impact of COVID-19 on Racial and Ethnic Minority Groups in the United States: a 2021 Update. *J Racial Ethn Health Disparities*. 2022 Dec;9(6):2334-2339. doi: 10.1007/s40615-021-01170-w. Epub 2021 Oct 13. PMID: 34647273; PMCID: PMC8513546.
- [3] *Covid-19*. Health Department. (n.d.). <https://oklahoma.gov/health/health-education/acute-disease-service/disease-information/covid-19.html>
- [4] Covid-19 statistics. (n.d.). <https://www.health.state.ok.us/stats/Registries/covid/StatisticsP.shtml>

ACKNOWLEDGEMENTS

