



Comparison of Los Angeles and Fresno's Relationship with Asthma and Green Space

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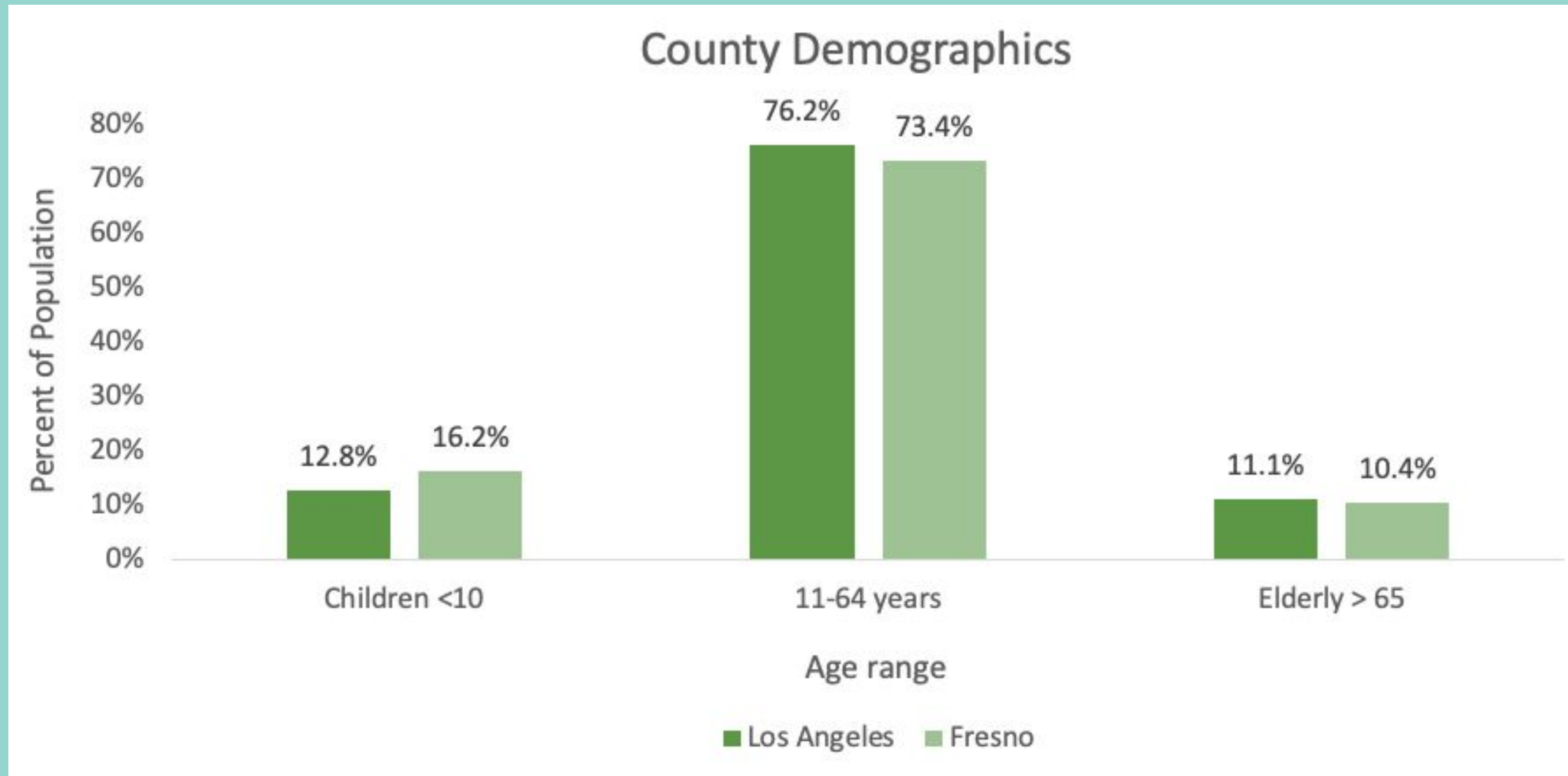
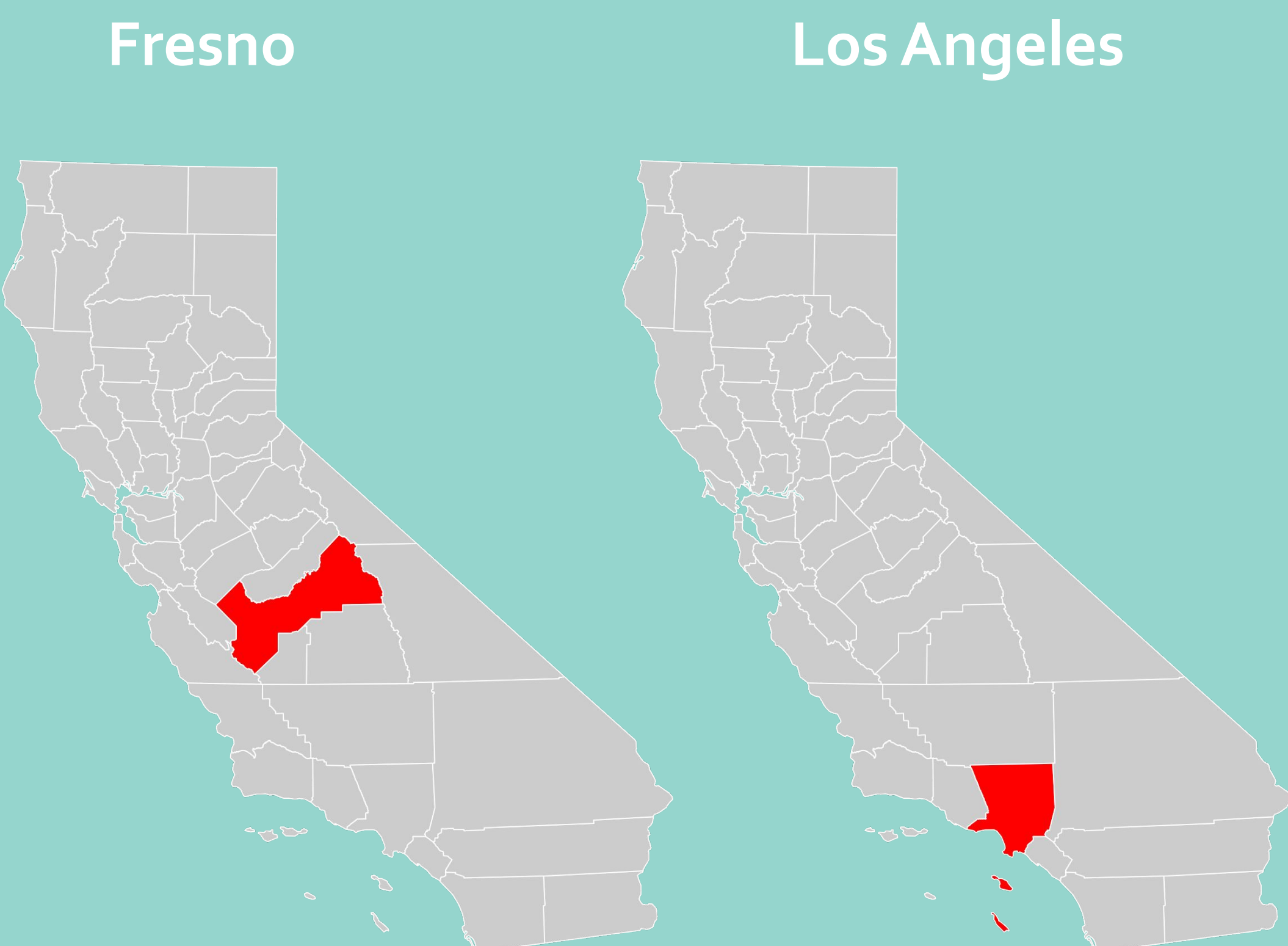
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Introduction

- A green space can be defined as an area of grass, trees, or other vegetation set apart for recreational or aesthetic purposes in an urban environment (WHO).
- An urban area is the region surrounding a city. They are very developed, and so have a high density of human structures (National Geographic).
- Current research suggests that green spaces positively influence physical, psychological, and social aspects of an individual's life, and the availability of green spaces is considered a social determinant of health.
- Though there are many benefits to living in a metropolitan area there is a lack of vision to ensure that inner-city areas include proper recreational and green spaces.
- Urban areas have a greater risk of exposure to adverse health factors such as air pollution, lack of physical activity, and unsafe neighborhoods (Ulmer, et al., 2016).

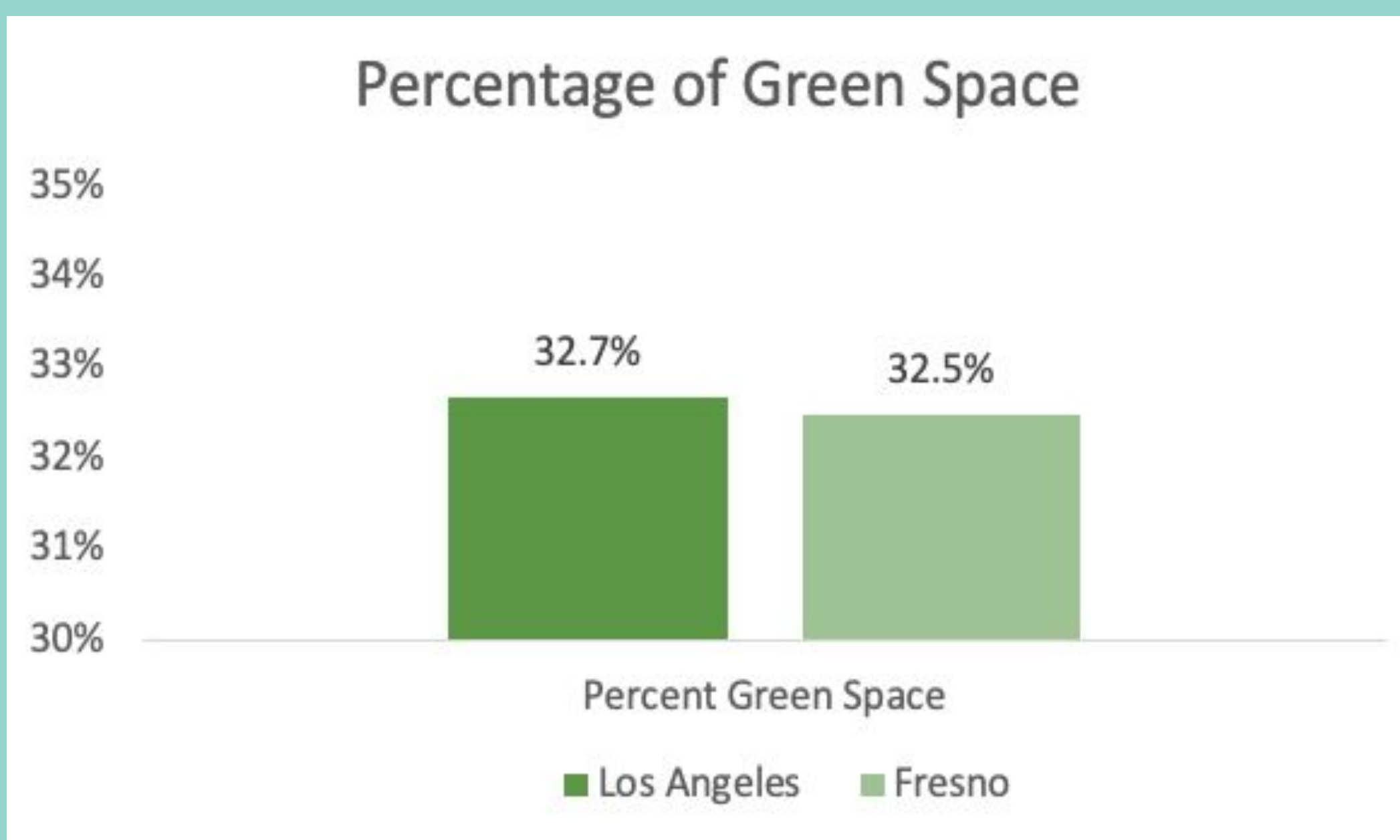
Objective

The goal of this study was to compare green space availability and prevalence of asthma-related emergency department (ER) visits among the urban areas of Los Angeles (LA) and Fresno Counties.



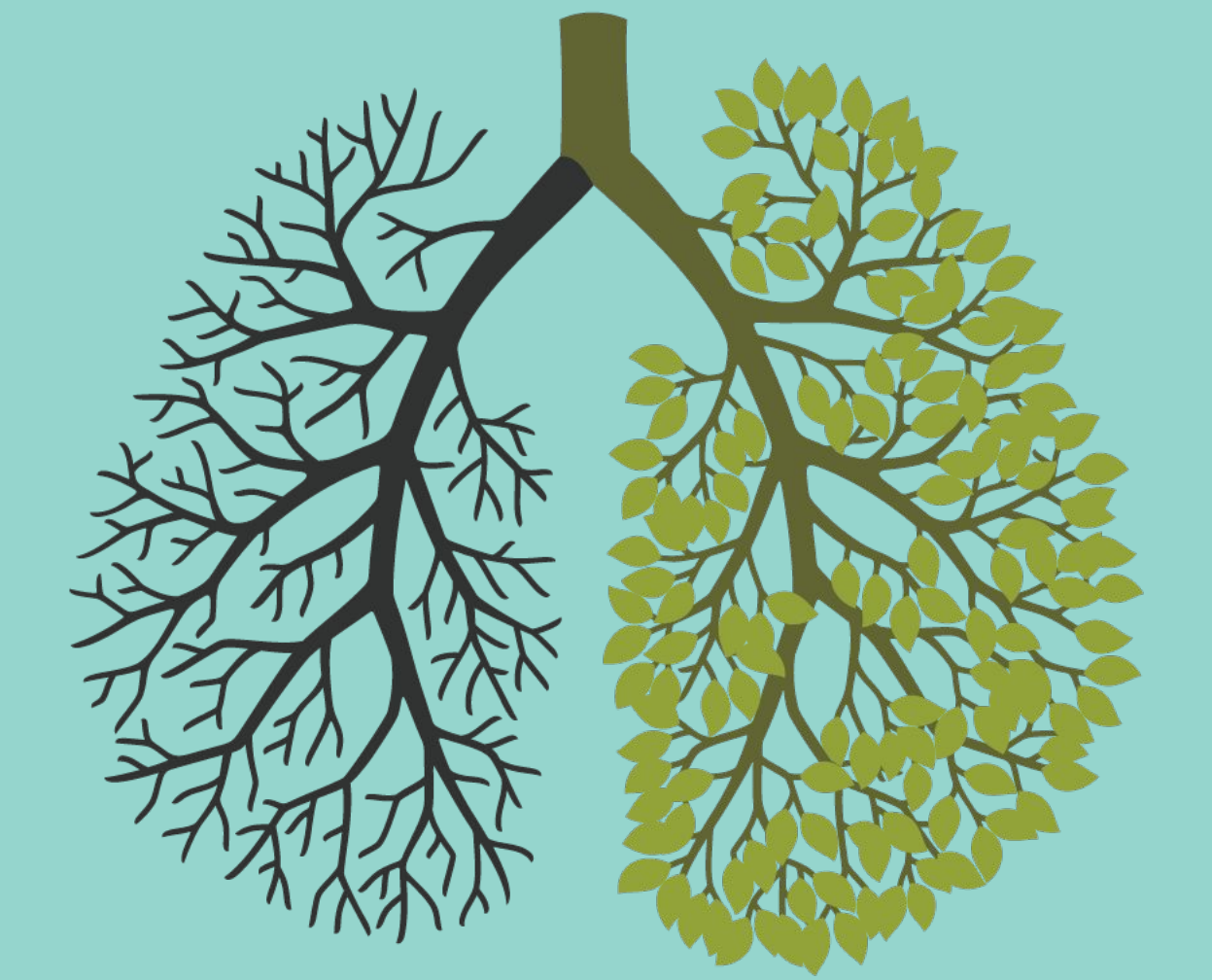
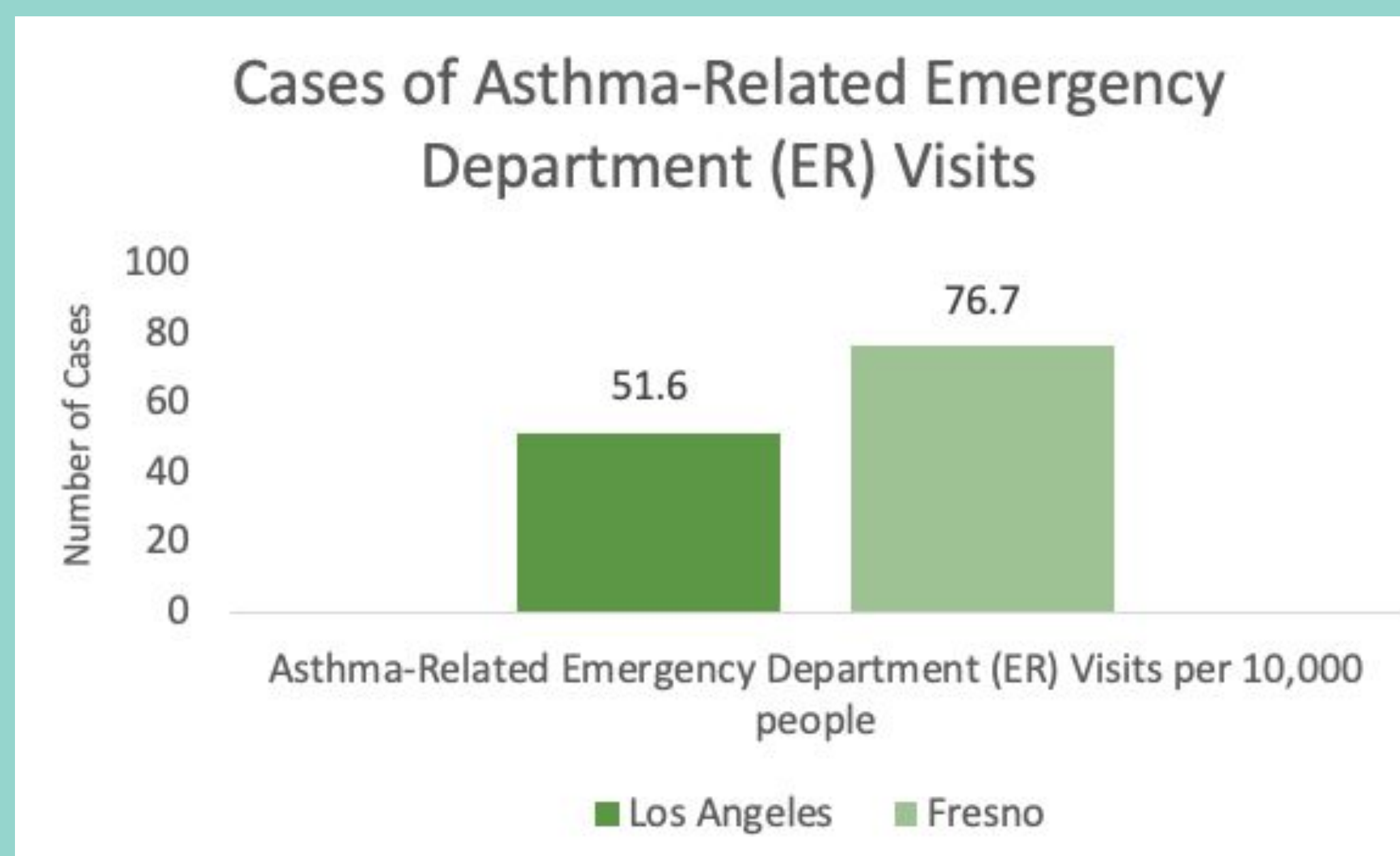
Methodology

- Data from 2010 Census from CalEnviroScreen 3.0 and EnviroAtlas from the EPA was used to compare the two counties' populations regarding asthma-related ER visits and green space using independent T-tests and Chi-square tests.
- Utilized IBM SPSS software to analyze census tract data
- County blocks considered were 2,343 for Los Angeles and 199 for Fresno.
- As for respective population sizes, Los Angeles was 9,818,605 and Fresno 940,450.



Results

- The average percentage breakdown by age for our study population in Los Angeles county was the following: children < 10 (12.75%), 11-64 years (76.18%), elderly > 65 (11.07%).
- The average percentage breakdown by age for our study population in Fresno county was the following: children < 10 (16.19%), 11-64 years (73.38%), elderly > 65 (10.43%).
- Average green space percent was: Fresno 32.47% and LA 32.66% (p-value 0.74).
- Rate of asthma-related ER visits per 10,000 individuals was: Fresno 76.60 and LA 51.59 (p-value < 0.05).



Conclusion

- Analysis shows no clearly-related association between green space and asthma-related ER visits in Fresno County and Los Angeles County.
- Differences may be attributed to other factors such as socioeconomic or physical activity characteristics.
- Green space availability is beneficial even if not shown to decrease asthma-related ER visits from this research.
- Further research of green spaces as beneficial features in urban communities are highly recommended with more targeted data.

Policy Implications

- Increase availability of trees and green spaces through overall number which is associated with lower rates of standardized asthma hospitalizations in urban areas with moderate levels of air pollution⁴
- Increase accessibility of green spaces within U.S. urban areas via walkable roads and appropriate parks and vegetation for physical and related-health benefits
- Curate social programs that target and encourage community engagement in nearby outdoor recreational areas and other neighborhood areas of vegetation

References

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