

## BACKGROUND

- Disadvantaged communities often face higher exposure to environmental pollutants such as PM2.5
- PM2.5 has been linked to worsened respiratory conditions
- Phipps focuses on the connection between environmental justice and public health

## OBJECTIVES

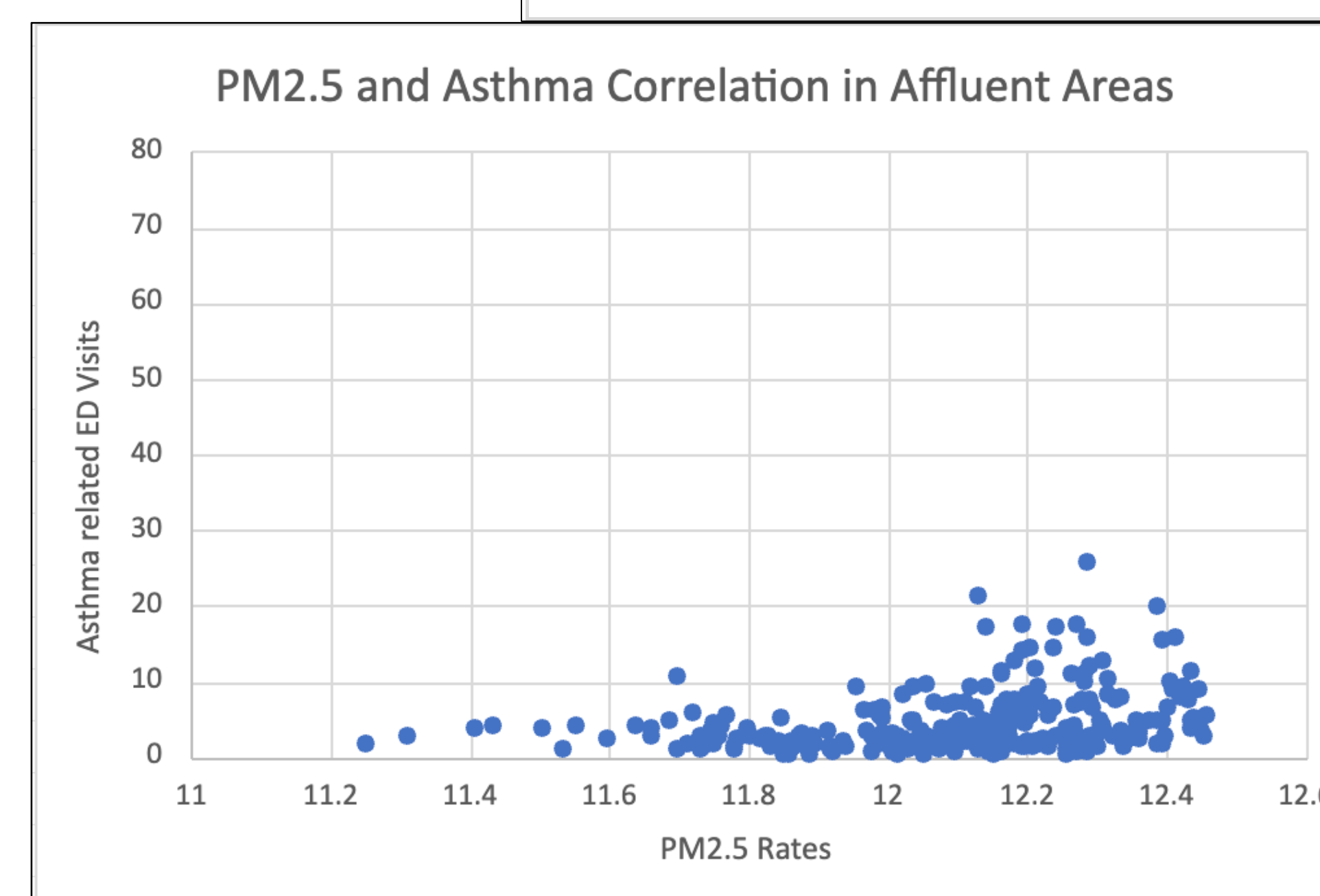
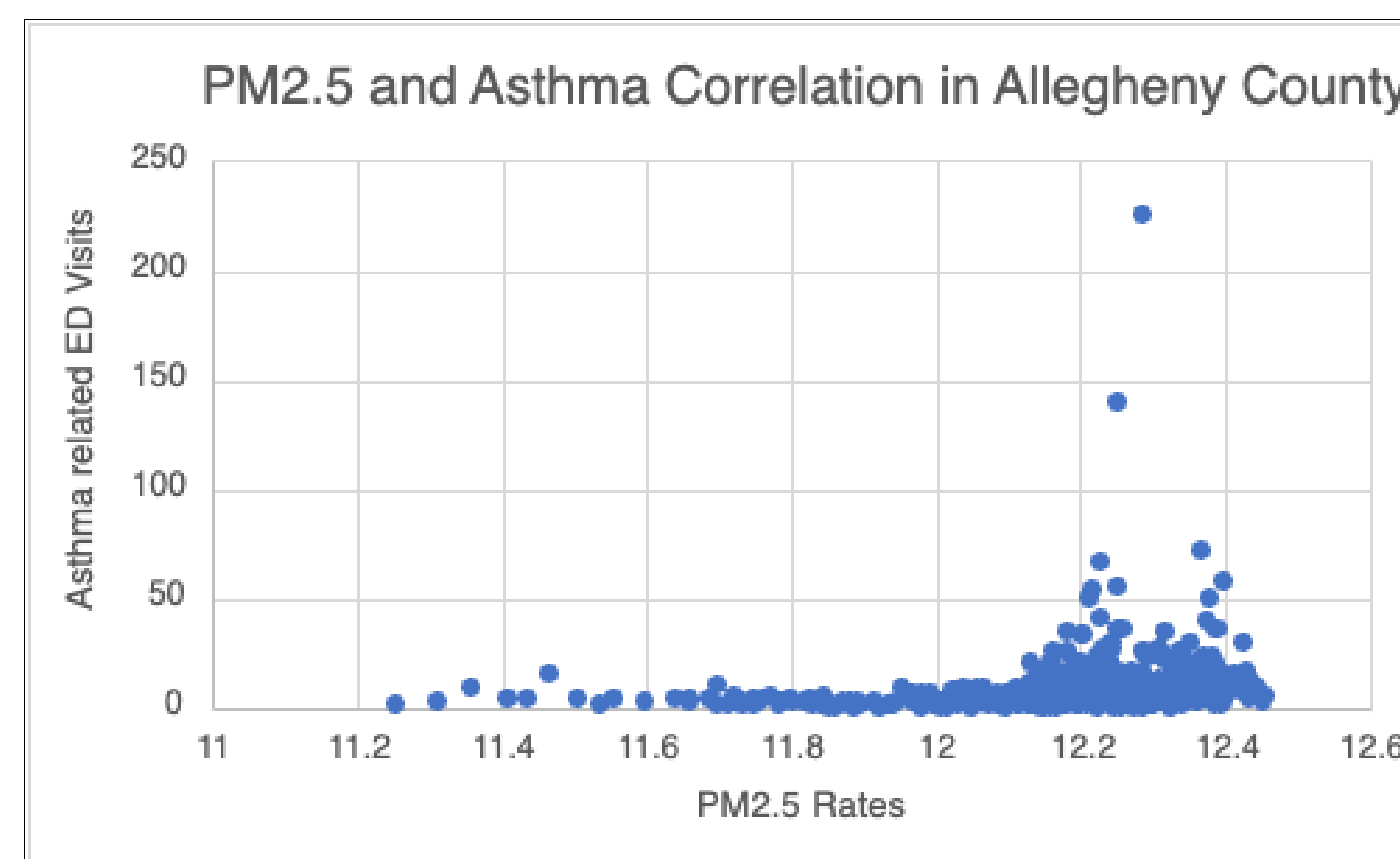
- To compare childhood asthma rates between marginalized and wealthier communities in Allegheny County
- To explore how environmental factors like air quality contribute to asthma disparities
- To connect disparities in asthma to environmental injustice and systemic inequalities

## METHODS

- Data Collection:** Childhood asthma rate data was obtained from the Western Pennsylvania Regional Data Center
  - Emergency room visits
  - Marginalized or wealthier
- Data Analysis:** Compared childhood asthma rates between the two groups to identify disparities in respiratory health

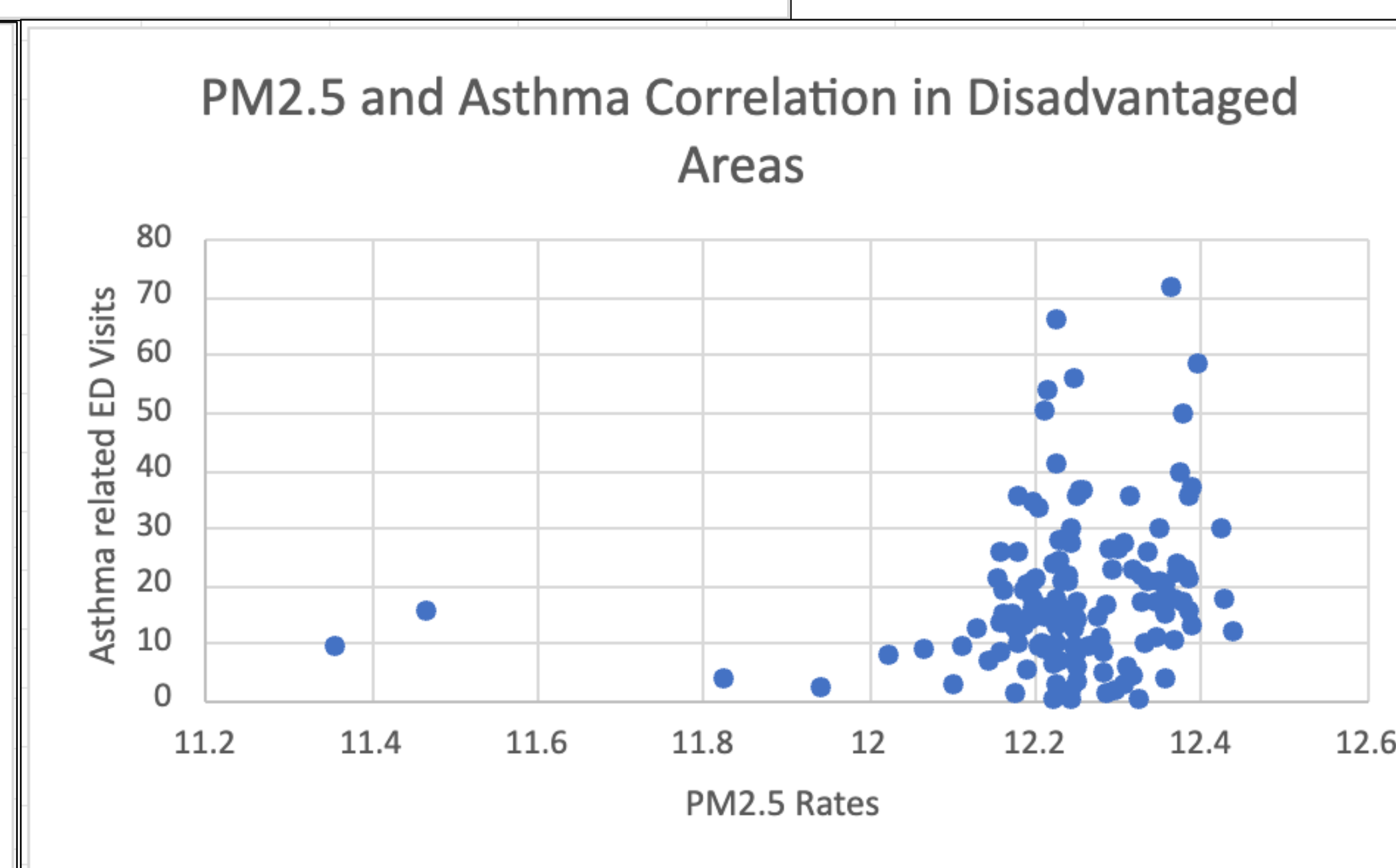
# Childhood asthma rates are significantly higher in disadvantaged neighborhoods in Allegheny County compared to affluent communities.

## RESULTS



R: 0.310083  
P-value: 3.4\*10<sup>-109</sup>

	PM2.5	Asthma
Average:	12.09	4.72
Max:	12.46	25.9
Min:	11.25	0.31



R: 0.137132  
P-value: 8.86\*10<sup>-5</sup>

	PM2.5	Asthma
Average:	12.24	20.7
Max:	12.44	225
Min:	11.36	0

## DISCUSSION

- In general, higher air pollution is linked to increased asthma ED visit rates
- Despite similar PM2.5 levels,, asthma rates are higher in disadvantaged areas
  - Lack of healthcare access
  - Poor housing conditions
- In disadvantaged communities, the combination of PM2.5 and unmet social needs leads to more asthma outcomes in children

## CONCLUSION

- There is a clear link between PM2.5 and childhood asthma in Allegheny County
- Although PM2.5 levels are similar across communities, the health impact is not
  - Disadvantaged areas experience higher asthma rates and more severe outcomes
- These findings highlight the need for equity-focused public health action, combining pollution reduction with social support

## ACKNOWLEDGEMENTS/REFERENCES

