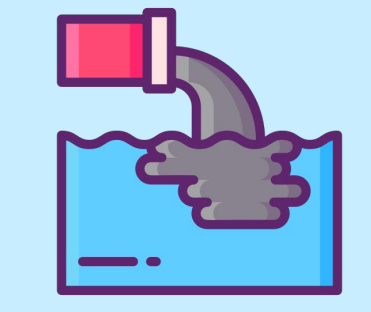


# A Breath of Fresh Dust: Health Costs of California's Shrinking Salton Sea

By Brendan Yoder

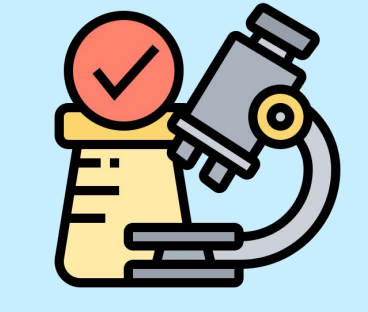


## Introduction:

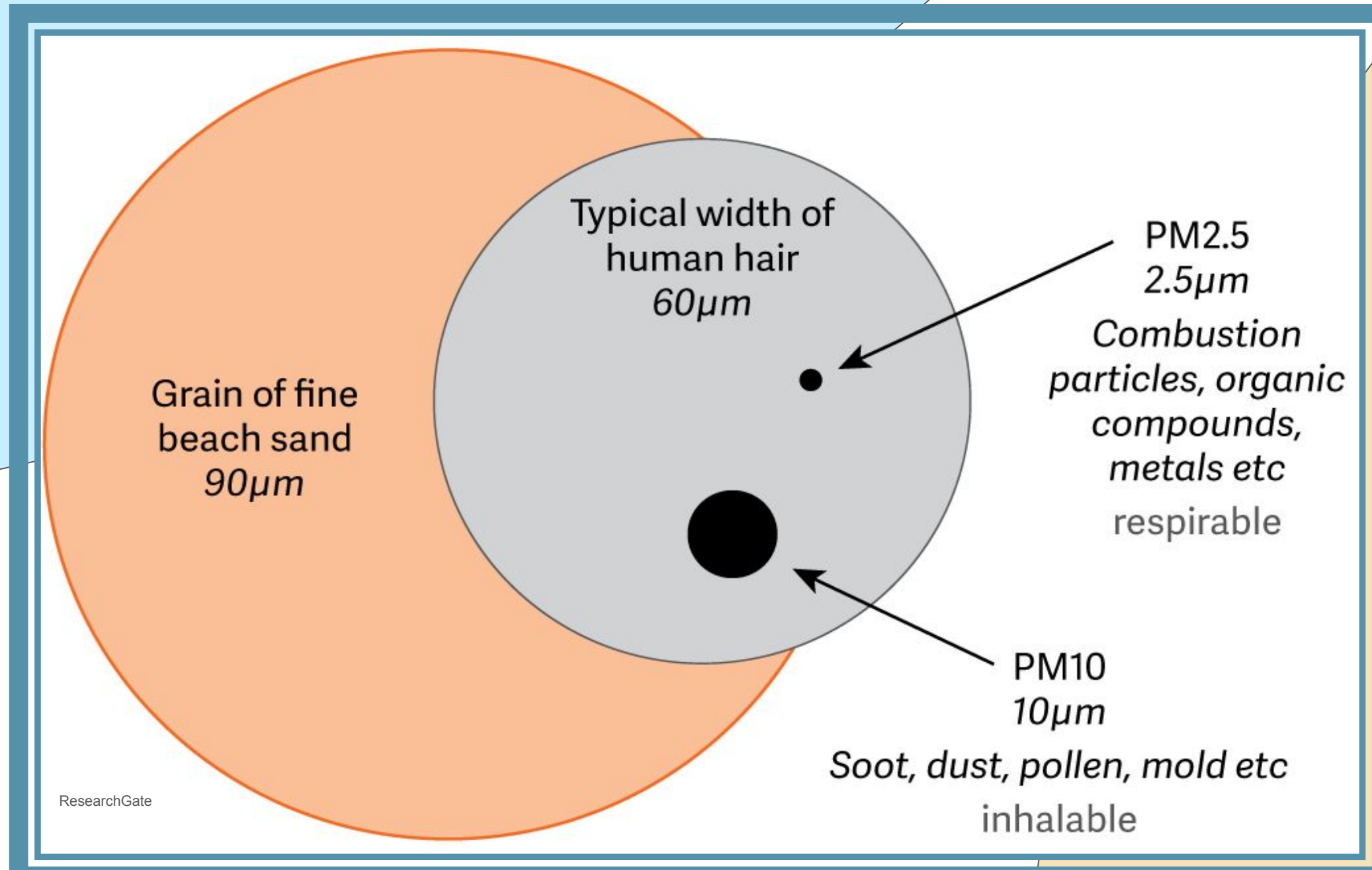
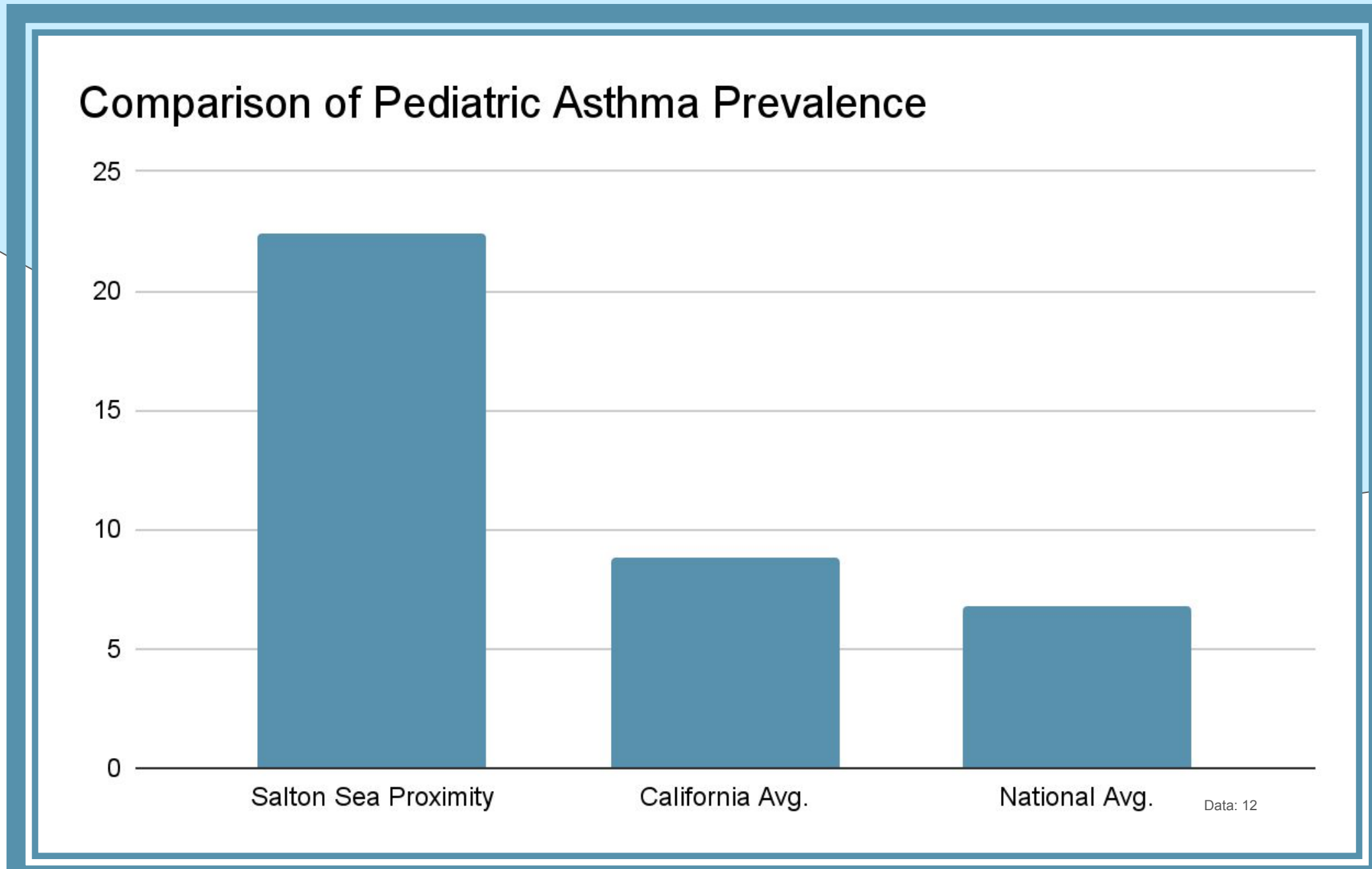
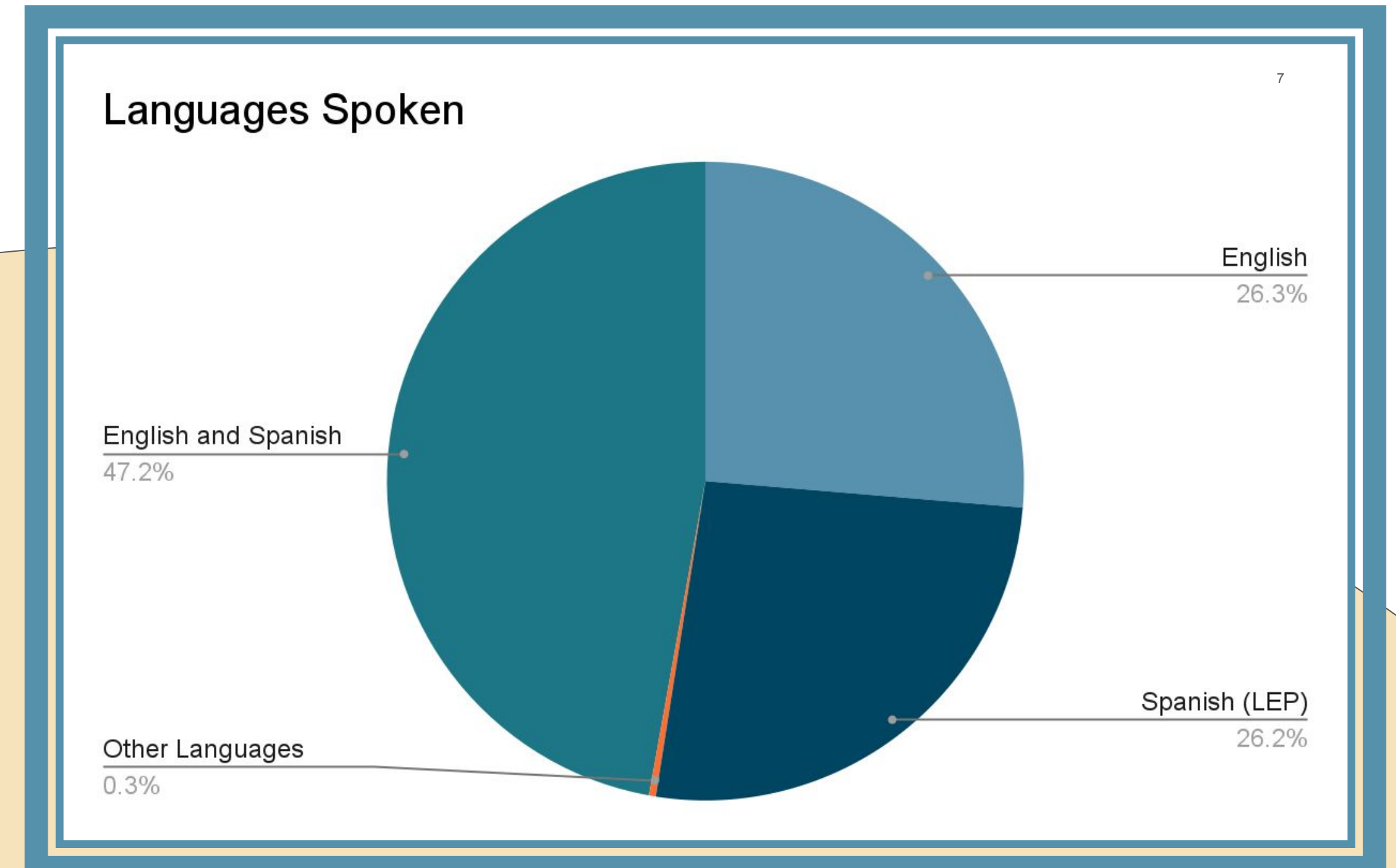
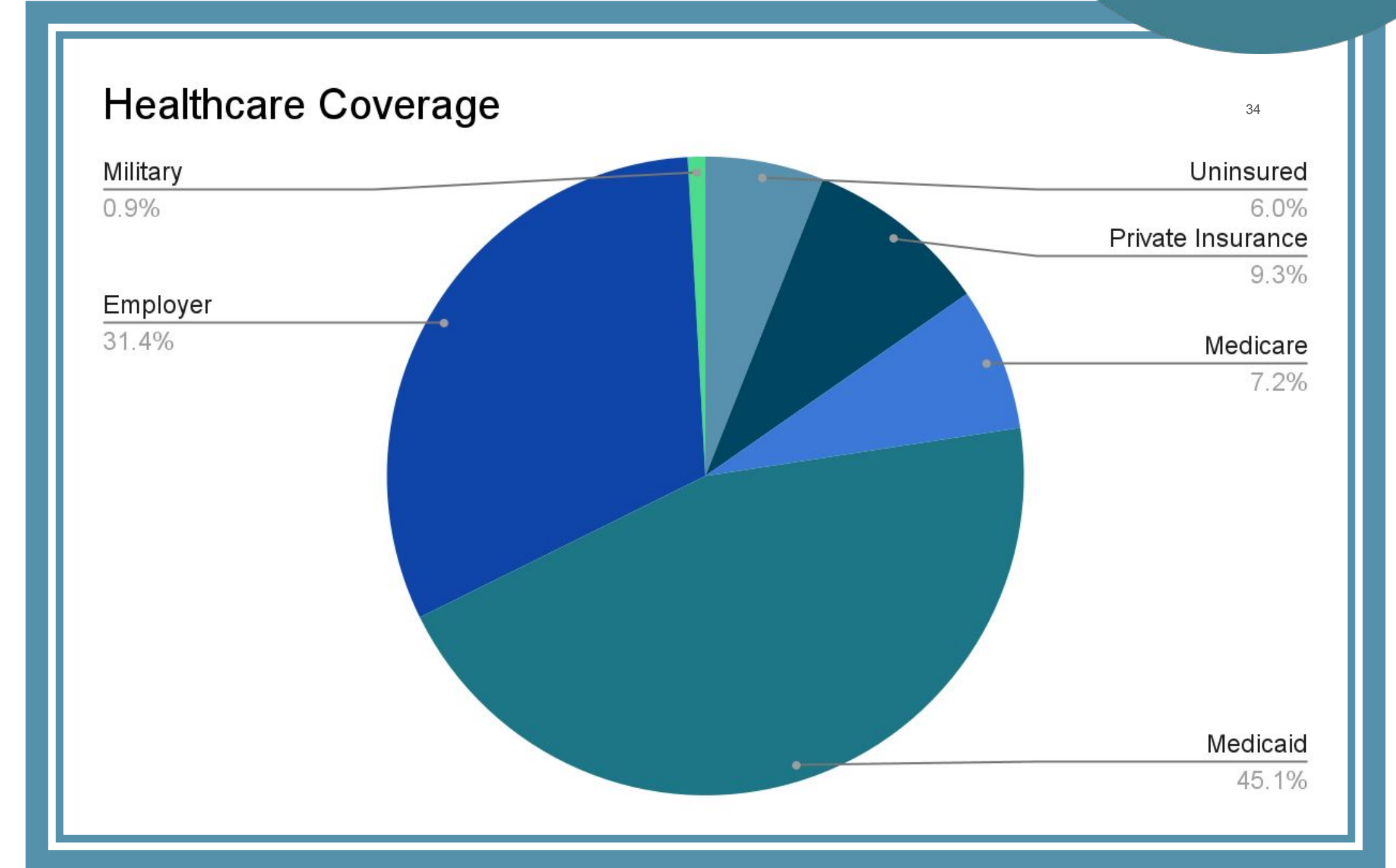


- **Geographic Conundrum:** Formed by a 1905 flood, the Salton Sea sits at -195 feet below sea level in the scorching Imperial Valley
- **Region Shaping Hydrology:** Once used as a desert oasis destination, it remains vital to the massive local agriculture industry and migrating birds
- **Accelerated Dessication:** The evaporation has been accelerated by changes in water policy in 2003 and 2018<sup>1,18,31</sup>
- **Dust = Danger:** Receding waters expose “playa” wetland, which generates toxic dust storms that affect the daily lives of everyone in the valley<sup>1-3,21</sup>
- **Rural Demographic:** The region is predominantly Latino, Spanish-speaking agricultural workers; many of whom lack healthcare coverage; Imperial County lacks resources to deal with this issue<sup>1,20,28-29,35</sup>

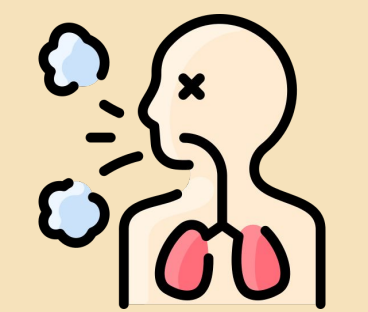
## What is Being Done?:



- **Dust Suppression:** Habitat restoration and constructed wetlands around the sea focus on soil remediation, dust control and water filtration<sup>1</sup>
- **Baseline Research:** Research into the effects on human health are in their first phases, including the AIRE (Assessing Imperial valley Respiratory health and the Environment)<sup>12,23-25,28,35-36</sup>



## What and How?:

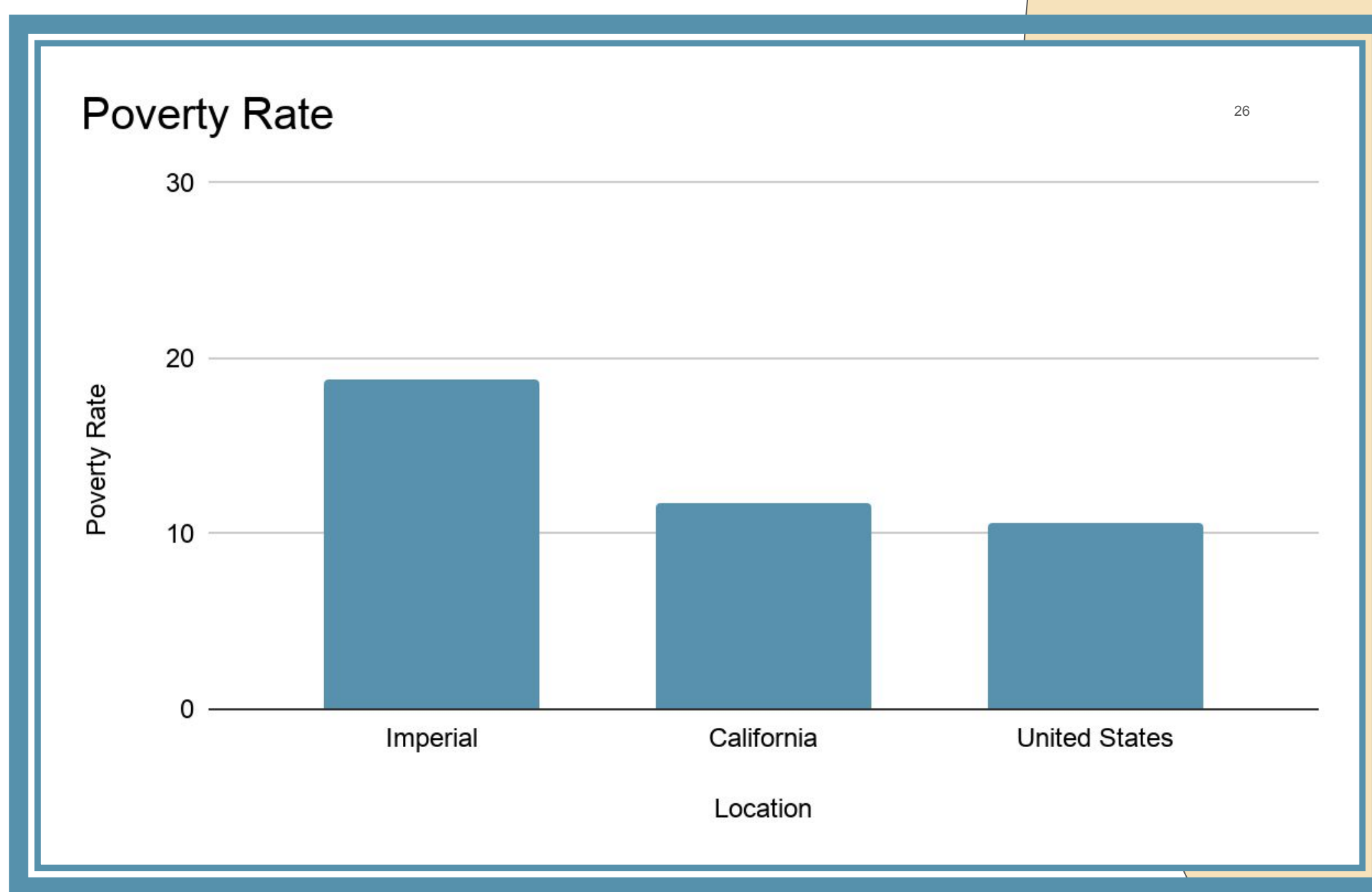
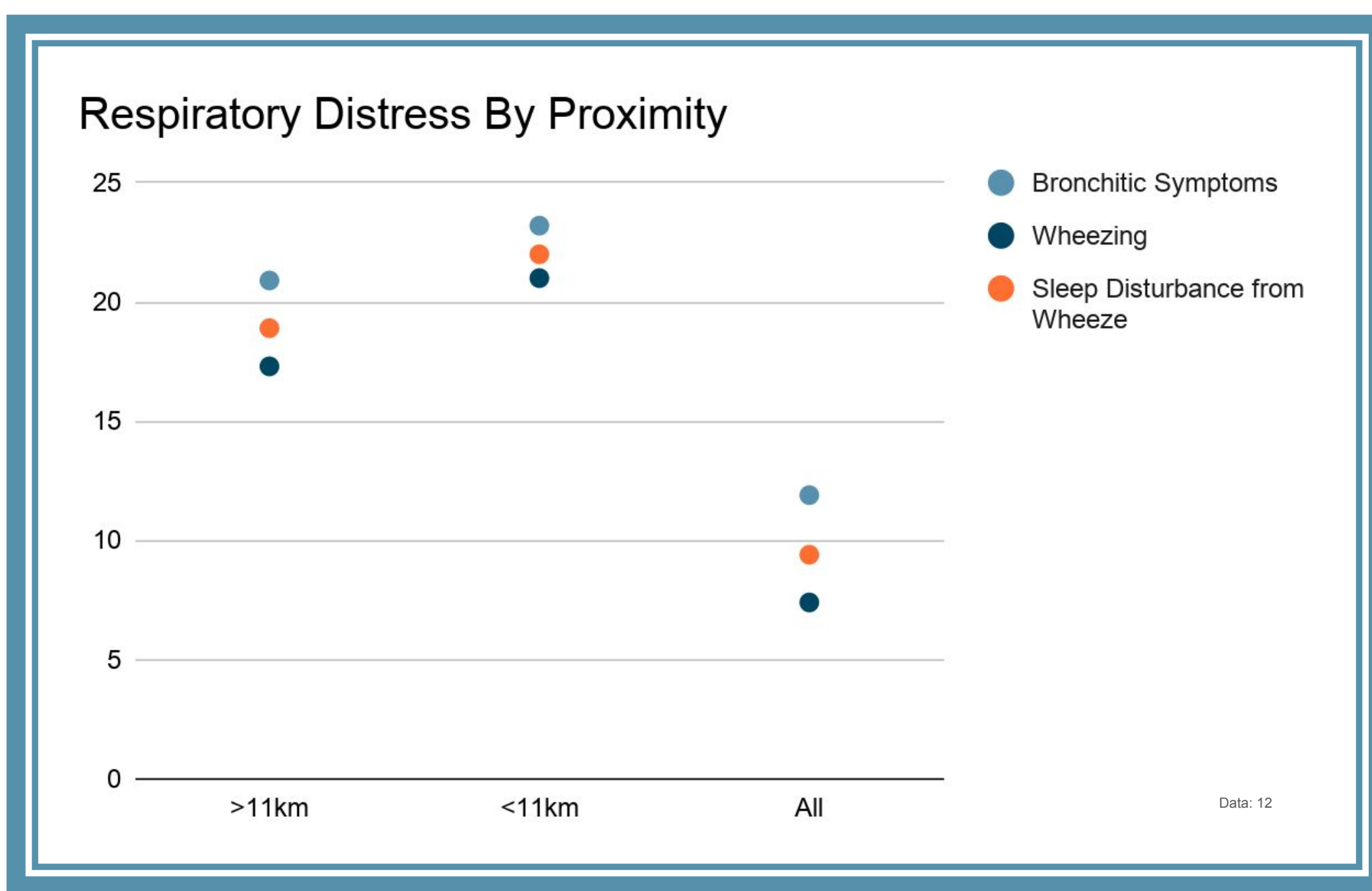


- **Particular Particles:** Heavy metals and stinky, dangerous compounds settle to the bottom and create particulate matter, the most pressing concern<sup>24-25,33</sup>
- **The Dust Settles:** As the water recedes and playa dries, toxic dust is freed
- **Ubiquity of Pollution:** While PM 10 is more localized to the sea, PM 2.5 fills the air basin
- **Outcomes:** The area has poor respiratory health<sup>3,5,8,12,22-24</sup>

## Conclusions and Research Gaps:



- **Triage:** Equitable health education programs should focus on indoor air quality, reducing exposure to dust events and helping those most vulnerable<sup>3,19,21,26,34,36</sup>
- **Inclusivity:** Reserach and solutions should address the healthcare, wealth and economic disparities the region faces<sup>34-37</sup>
- **Big Bucks:** Economic interests in the area like mining must be regulated to contribute to a solution for the area's environmental and human health<sup>18,28</sup>



## Methods and Citations:



- Google scholar using relevant search terms
- Cal Poly Humboldt library resources and government documents database



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