

# Lower Air Pollution = Less Asthma

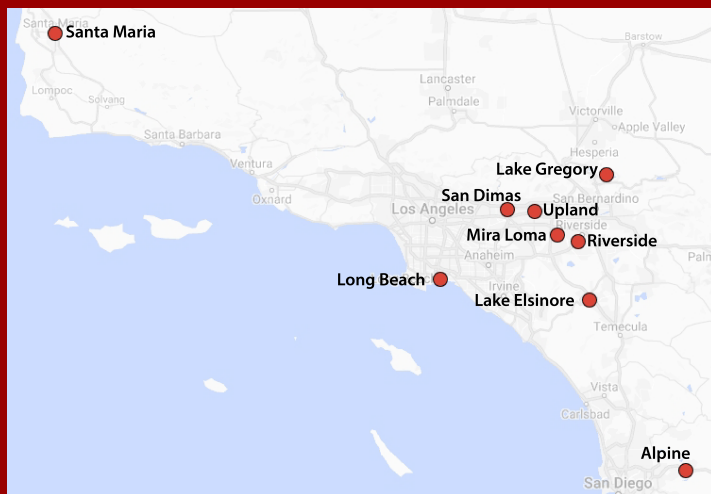
USC researchers find less pollution in Southern California is associated with lower rates of new asthma cases in children.

## USC CHILDREN'S HEALTH STUDY

4,140 Children

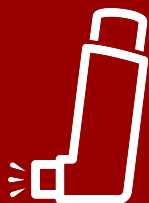


9 SoCal Communities



## WHAT WAS MEASURED?

### New Asthma Cases



3 groups of kids from each of the 9 communities were studied to see if the rate of new asthma cases in the communities went down with the reductions in air pollution.

### Pollution

Pollution levels across SoCal have been measured for a period spanning 20 years starting in 1993.



Particles: Coarse (PM10), Fine (PM 2.5  $\mu$ m)  
Gases: Nitrogen Dioxide (NO<sub>2</sub>), Ozone (O<sub>3</sub>)

## FINDINGS

### Pollution ↓ New Asthma Cases ↓

The decline in the rate of new asthma cases across the 9 communities from 1993 - 2014, was associated with lower levels of nitrogen dioxide and fine particulate matter.

Nitrogen dioxide

22%

NO<sub>2</sub>

Asthma rate

20%



Fine particulate matter

36%

PM<sub>2.5</sub>

Asthma rate

19%



Garcia, et al. JAMA.  
2019; 315(14):1491-1501.  
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USC Infographic: Wendy Gutschow



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