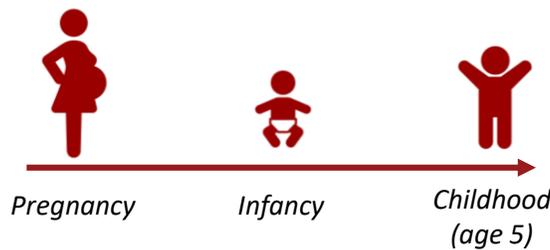


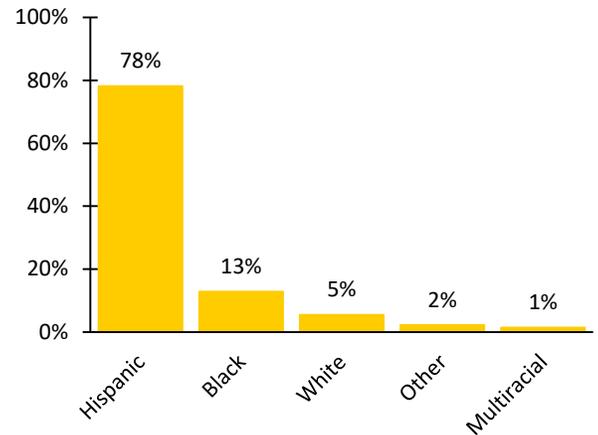
## WHAT IS THE MADRES STUDY?

The Maternal And Developmental Risks from Environmental and Social Stressors (MADRES) Center aims to understand the impact of environmental exposures and social stressors on the health of mothers and their children, and particularly how these exposures contribute to health disparities. The Center was established in 2015 as one of five Centers of Excellence on Environmental Health Disparities Research funded by NIH and EPA. Since then, the MADRES Center has recruited a cohort of over 900 women during pregnancy from four community health centers in Los Angeles. The majority of MADRES Study participants are Hispanic or Black and report annual household incomes of less than \$50,000. The study follows the women and children through the child's fifth birthday. Key maternal health outcomes include pregnancy weight gain, as well as postpartum weight retention, depression, and cardiovascular disease risk in the years after birth. Key child health outcomes include early childhood obesity, respiratory health including asthma, neurodevelopment, and overall health.

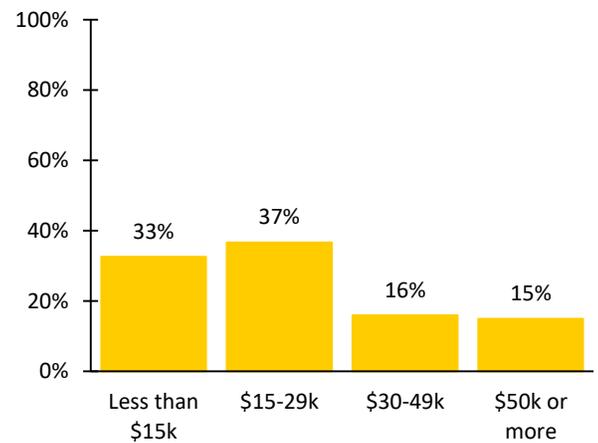
### MADRES Study Timeline



MADRES Participants by Race/Ethnicity\*



MADRES Participants by Income\*

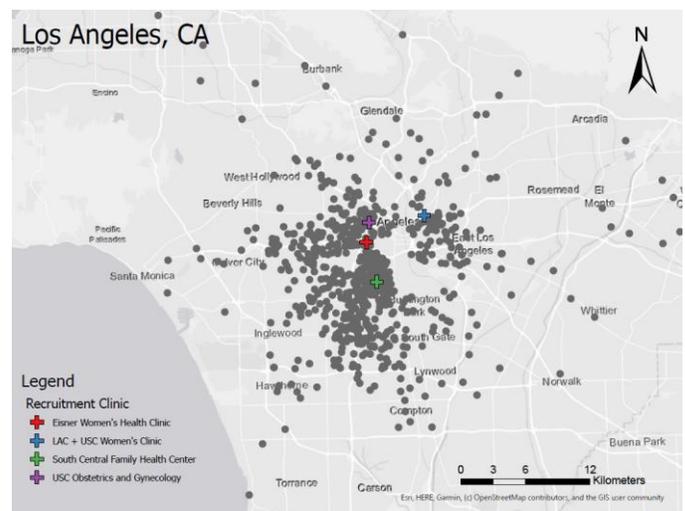


\*Among participants with known race/ethnicity or income

## MADRES NEIGHBORHOODS

The majority of MADRES participants live in the downtown and south-central regions of the City of Los Angeles. This aligns with the locations of the four community health centers where participants were recruited.

CalEnviroScreen, developed by the California EPA, is a tool that provides an overall assessment of chemical pollution burden and population vulnerability to identify the most burdened neighborhoods. Overall, 18% of Hispanic, 17% of Black and 3% of white California residents reside in one of the 10% most burdened neighborhoods. Over 60% of MADRES study participants live in one of the 10% most environmentally-burdened neighborhoods.



## WHAT COVID-19 RESEARCH ARE WE DOING?

When the COVID-19 pandemic began, the MADRES Center investigators quickly created and launched COVID-19-specific surveys to study the effects of the pandemic in the MADRES Study. We use these surveys to measure COVID-19 symptoms and testing as well as the broad impacts of the pandemic and related lifestyle changes. We study utilization of healthcare, behavior changes, financial impacts, mental health impacts, educational impacts, and more in both the mother and child. We also can compare data we collected from each participant before the pandemic to data collected during the pandemic to analyze individual changes. It is critically important to understand how the COVID-19 pandemic specifically affects socioeconomically-disadvantaged and medically-underserved populations to inform policies and programs. A brief snapshot of some early results from the MADRES Study is provided below. We are continuing to collect and analyze more data as the pandemic continues.



**78%** of participants reported **at least one income in the household was reduced** (either by losing a job or having hours reduced). **47%** of participants reported either they or their partner **lost their job**.



**31%** of participants reported either their job or their partner's job puts them at an **increased risk for COVID-19**.



**88%** of participants report spending **less time outdoors in nature**.



**75%** of participants report getting **less physical exercise**. At the same time, **72%** of participants report **eating more often** to cope with stress.



Participants report increased feelings of **discrimination** and increased feelings of **social-isolation\***

*\*Differences are statistically significant*



**69%** of participants report **receiving less healthcare** due to cancelled appointments or concerns around entering a healthcare provider's office.

## WHY IS THIS IMPORTANT?

Members of Hispanic and Black communities are disproportionately affected by environmental exposures and social stressors, which can lead to worse health outcomes. Given the rise of the COVID-19 pandemic, it is especially important to understand how these already vulnerable populations are affected by the disease itself and the policies put in place to slow the spread. Research into the effects of COVID-19 specifically among medically-underserved populations can inform policies and programs to best support these populations and ultimately reduce health disparities.

For more information, visit our MADRES website at [madres.usc.edu](https://madres.usc.edu) and our COVID-19 story map at [bit.ly/madres-covid](https://bit.ly/madres-covid)

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