

# The Nicholas Environmental Notebook II\*

*Stories from the front line*



## Addressing Disparities in Children's Health

All babies deserve a healthy start in life. But in the American South, cases of premature birth and low birth weight, once on the wane, have risen in recent years especially among minorities.

Researchers at a new Duke University center, launched this year with a \$7.74 million EPA grant, are working to understand this ominous shift and help reverse it.

The Southern Center on Environmentally Driven Disparities in Birth Outcomes is the first interdisciplinary research center in the South devoted to studying the complex interactions of environmental, genetic and socioeconomic factors that cause premature and low-weight births.

"There is a unique social, economic and demographic context in which environmental exposures play out in this region," says center director Marie Lynn Miranda, associate professor at Duke's Nicholas School of Environment and Earth Sciences.

"Though health disparities between populations are well documented and quite significant, we really don't know what accounts for them," Miranda explains. "It's not just a difference in income or socioeconomic status; there's more going on."

To get to the root of the problem, she and her team are analyzing decades of data, ranging from statewide public health records to local clinical observations. Working with medical and environmental researchers as well as community groups and local health clinics, they are examining how fetal growth and health is affected by a wide range of factors such as breathing polluted air, exposure to lead or mercury, and growing up in substandard housing. Students play a significant role in the research.

Results of the five-year study will be shared with women of childbearing age, families, community groups, policymakers and healthcare professionals.

The effects of poor birth outcomes can be long lasting, Miranda notes. Survivors are at higher risk for neonatal, infant and childhood illness and death, as well as obesity, cardiovascular disease and diabetes as adults.

"Prevention is the best approach," she says. "Fostering better environments and providing improved interventions in clinical care and practice before and during pregnancy can help avoid a lifetime of problems."

**Solutions start here at the Nicholas School**



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