

# Study shows U.S. has greater link between low birth weight and inequality

January 29 2016, by Deborah Bach

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Health disparities are common in developed countries, including the U.S., but at what age those inequities take root and how they vary between countries is less clear.

New research from the University of Washington compares the link between income, education and low birth weight in the United States with those in three comparable [countries](#): the United Kingdom, Canada and Australia. Low birth weight is a primary risk factor for infant deaths and is considered a key predictor of [health](#) and socioeconomic status throughout life and across generations.

The paper, published online ahead of print in the *American Journal of Public Health*, found that while low birth weight was linked to lower income and education levels in all four countries, that connection was most persistent in the U.S.

The research looked at low birth weights among babies born to mothers in five income groups and with varying levels of education. In the U.K., Canada and Australia, disparities in birth weights were most pronounced between the highest- and lowest-income groups. But in the U.S., birth weights dropped consistently with income level. The findings underscore the degree to which inequity impacts health in the U.S., lead author Melissa Martinson said.

"We would expect in any country that there would be health differences between the highest incomes and lowest incomes, but what's interesting

in the U.S. is how clear the distinction is for every dollar of income," said Martinson, an assistant professor in the UW School of Social Work.

The study looked at national birth weight data from maternal reports and birth certificates in the four countries, as well as maternal education and income data from longitudinal studies. The researchers controlled for differences in marital status, infant gender, and mothers' race and ethnicity. They found that low birth weights—defined as 5.5 pounds or less—were highest overall in the U.K. (6.0 percent), followed by the U.S. (5.8 percent), Canada (5.5 percent) and Australia (4.8 percent).

The data predates the Affordable Care Act, and the other three countries have more generous health care and social support systems than the U.S. But Martinson said low birth weights in the U.S. are linked to factors beyond [health insurance coverage](#), such as income instability, food insecurity and residential segregation.

"If you're a low-income woman and you grew up low-income and had poor nutrition and more stress, all these factors have accumulated throughout the life course to culminate in low birth weights," she said.

Martinson began looking at [health disparities](#) across countries while employed as a social worker in the U.K. Noting the differences in social services between England and the United States, she wondered what role those services played in health outcomes throughout life. Martinson published a paper in 2012 which found that health disparities by income were pervasive in both countries, despite England's better overall health and universal health insurance.

That prompted her to investigate whether inequities that contribute to health outcomes start at birth, and how those disparities might compare between the U.S. and similar countries. The new study, she said, demonstrates that income and education matter more for health at birth

in the U.S. than in other countries.

"It's not just the very rich and poor whose health is tied to [income](#) in the U.S., but infants at every step of the socioeconomic ladder," Martinson said.

Martinson said the Affordable Care Act could help mitigate [low birth weight](#) and other poverty-related health impacts, but consistent rates of low-birth weights in the U.S. over the past half century—despite advances in reproductive technology, dramatic decreases in smoking rates and expanded prenatal care—suggest that reversing the trend will take time.

"There are many questions about how health inequities emerge over the life course," she said. "This research shows they're there at birth. Whatever health disparities a woman has as a 50-year-old, they're partially laid out for her at [birth](#) in the U.S., more than in these other countries."

**More information:** Melissa L. Martinson. Income Inequality in Health at All Ages: A Comparison of the United States and England, *American Journal of Public Health* (2012). [DOI: 10.2105/AJPH.2012.300929](https://doi.org/10.2105/AJPH.2012.300929)

Melissa L. Martinson et al. Socioeconomic Inequalities in Low Birth Weight in the United States, the United Kingdom, Canada, and Australia, *American Journal of Public Health* (2016). [DOI: 10.2105/AJPH.2015.303007](https://doi.org/10.2105/AJPH.2015.303007)

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